

RAILWAY AGE

WORKBOOK OF THE RAILWAYS

THE INDUSTRY'S ONLY WEEKLY NEWSMAGAZINE

"crutches"
can't cure



TIMKEN® BEARINGS

do what "crutches" can't do —
Cure the Hot Box Problem

...and they pay for themselves over and over and over in operating and maintenance savings

"Crutches"—devices attempting to improve friction bearing performance—*don't* cure the hot box problem. But Timken® bearings *do*. That's because Timken tapered roller bearings do away with the *cause* of hot boxes—the friction bearing itself.

Along with a cure for the **SAVINGS** hot box problem, Timken **BUILD UP** bearings give you extra savings. They eliminate the frequent inspection and lubrication necessary to keep friction bearings operating. Timken bearings cut terminal bearing inspection time 90%. Lubricant cost as much as 95%. Matter of fact, the new Timken heavy-duty type AP (All-Purpose) bearing assembly will go three years without the addition of lubricant. When all railroads go "Roller Freight"—have freight cars equipped with Timken bearings—they'll save more than \$224 million

a year, earn an estimated 22% net annual return on the investment.

Timken bearings banish the hot box problem because they *roll* the load. They don't *slide* it. There's no chance for the metal-to-metal sliding **THE TAPER DOES IT** friction that comes with friction bearings. And the tapered design makes Timken bearings the only ones you can depend on to slash costs to the minimum in addition to curing the hot box problem. The taper prevents lateral movement. There's no scuffing or skewing; bearings last longer. There's no pumping action; costly lubricant is saved. To insure bearing quality, we even make our own steel. No other U. S. bearing manufacturer takes this extra quality control step.

Considering the added cost of buying and maintaining "crutches" for friction

bearings, the difference in price between friction and roller bearings is smaller today than ever. And a planned conversion program used by a major railroad shows

PLANNED CONVERSION BOOSTS SAVINGS

how costs can be cut further. Every car of this road coming into its shops for major repairs is converted to roller bearings. This plan, (1) helps maintain a steadier shop and labor schedule, reduces bearing installation costs; (2) lets the railroad spread the conversion cost over a period of years.

Why put up with costly "crutches" that *don't* cure the hot box problem? Timken bearings *do* cure it, and cut operating and maintenance costs right to the bone. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ont. Cable address: "TIMROSCO".

7 out of 10 roller bearing freight cars roll
on **TIMKEN** tapered roller bearings



This simple device on your diesel or steam locomotive wheels . . .



...loaded with *Nalco* "Moly" Stick
dry lubricant...
...gives you

- Better flange lubrication
- Lowered lubricating costs
- Longer wheel life
- Less lubricator maintenance
- No traction losses
- No track fouling

SIMPLICITY, plus low installation and upkeep costs for really effective dry flange lubrication are yours with Nalco "Moly" Stick Lubricators. This new concept in flange lubrication utilizes a molybdenum disulfide type lubricant which has high film strength under pressure and does not pick up dirt or other abrasives. Tests in service show that "Moly" Sticks provide better lubrication and far outwear any other type of stick lubricant.

Write for Bulletin 551 for more cost-saving data on Nalco Flange Lubricators — Or ask your Nalco Representative for details.

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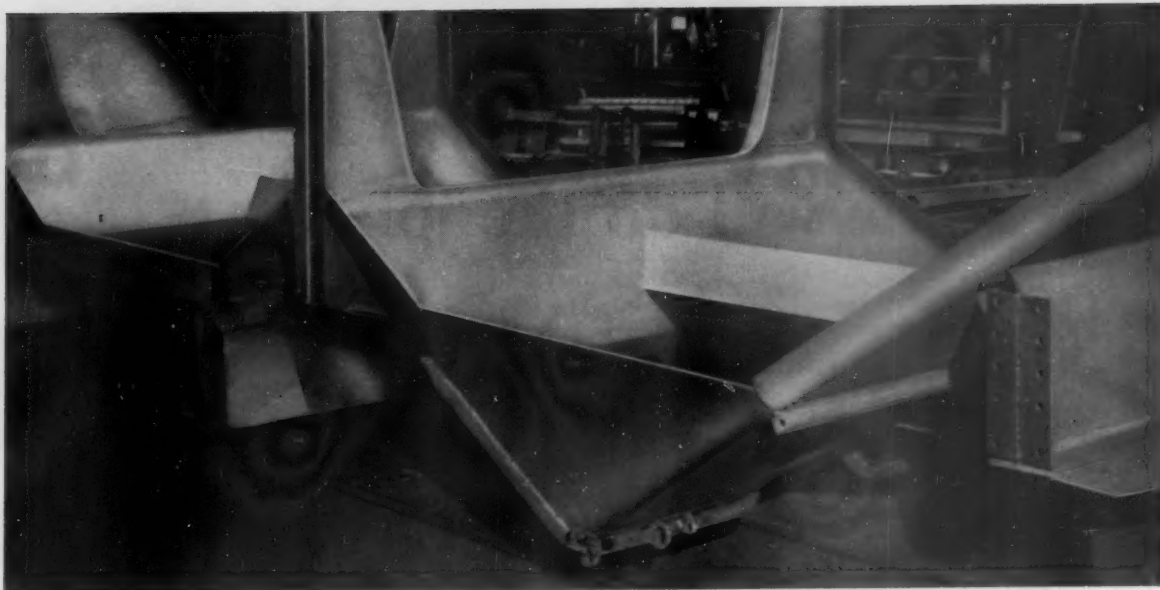
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At the Johnstown, Pa., plant Bethlehem recently completed 1200 new hopper cars for the Pennsylvania Railroad. These 70-ton cars are of the triple-hopper type, and represent a new design for the PRR.

All interior material coming into contact with the lading was fabricated from Mayari R high-strength, low-alloy steel. This steel is not only 50 pct stronger than carbon structural steel, but offers much better resistance to corrosion and abrasion. Thus the Pennsylvania can look forward to many years of service

from these cars, in spite of the grueling chores they will be called upon to do.

The Pennsylvania is only one of an increasing number of railroads that are including Mayari R in their current car-building programs. Mayari R permits welded designs just as readily as carbon steel, with little if any change in welding techniques. It takes paint nicely, and holds it as much as 80 pct longer than plain carbon steel. The little extra it costs is more than offset by the longer service it gives.

Not only cars, but locomotives, as well as bridges and other railroad structures, can be made better, stronger, longer-lasting with versatile Mayari R high-strength steel. Catalog 353 offers ample evidence of this, and contains a wealth of specific technical data to assist engineers. You can obtain a copy promptly through the Bethlehem district sales office nearest you.

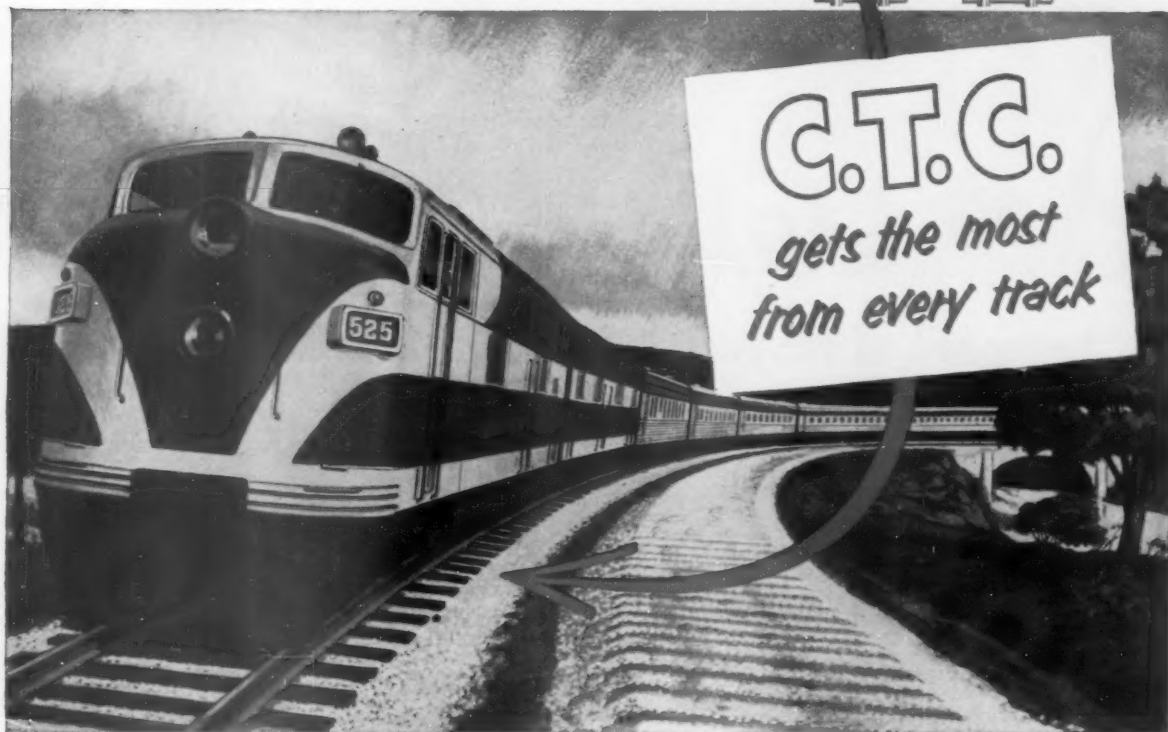
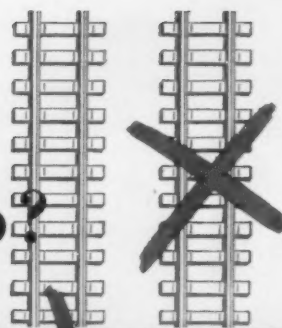
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BETHLEHEM, PA.

On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation



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Traffic conditions change—and many railroads that needed two tracks yesterday have discovered that one track with C.T.C. tailored to traffic will do the job today. What's more, their profit picture is considerably better because of substantial reductions in operating and maintenance costs.

With a modern UNION Traffic Control System, the capacity of one track can be made almost equal to that of two tracks, each signaled for train operation in one direction. Scientific charting of train operation will usually show that you can eliminate one track and handle traffic requirements efficiently on single track with train movements directed by signal indication. The savings in taxes and in operating and maintenance

costs quickly pay for the new traffic control system.

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Workbook of the Railways

Vol. 141, No. 10
September 3, 1956

CONTENTS and Week at a Glance

Summer rail travel . . .

. . . seems to have held its own or done better in some cases, a Railway Age survey of the industry indicates. Dropping "loser" lines, together with higher fares, develops more revenue despite less riders. . . . p.7

FORUM: Railroads have an acute need . . .

. . . for much more active leadership in dealing with the "passenger problem" than has so far manifested itself. Leadership of necessary high order will be composed of three basic ingredients: Marshalling all pertinent facts; acting realistically, from a long-run viewpoint, in accordance with the facts; and explaining the action so it will receive general support. . . . p.27

The financial advantage of using . . .

. . . a residual-distillate type fuel in conjunction with a dual-fuel system is expected to be ascertained from a field test now in progress on a New York Central freight locomotive. The road test follows encouraging results obtained with the system in stationary locomotive tests. . . . p.28

A \$650,000 ventilation project . . .

. . . just completed for the Great Northern's Cascade tunnel, has permitted the road to end its half-century-old electrified train operation in the Cascade mountains. Before ventilating the tunnel, longest rail bore in the Western Hemisphere, diesel operation of full-tonnage trains was not practicable because the engines overheated, although some passenger trains have been diesel-powered through the tunnel for several years. . . . p.33

COMING: Next week . . .

. . . the second article in the Railway Age series, "Contributions to Railroad Research."

BRIEFS

Last call to win \$1,500 . . .

. . . in prizes in the New York Railroad Club's 8th annual

"horse and buggy" leadership in an atomic age

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Rolled Steel Wheels



for Freight Cars



Passenger Cars



Diesel Locomotives



Edgewater Steel Company

PITTSBURGH 30, PA.

Current Statistics

Operating revenues, six months	
1956	\$5,293,274,781
1955	4,835,326,880
Operating expenses, six months	
1956	\$4,040,560,806
1955	3,654,220,154
Taxes six months	
1956	\$559,076,693
1955	523,450,895
Net railway operating income, six months	
1956	\$510,512,938
1955	530,456,895
Net income, estimated, six months	
1956	\$399,000,000
1955	416,000,000
Average price 20 railroad stocks	
August 28, 1956	98.52
August 30, 1955	94.49
Carloadings revenue freight	
Thirty-three weeks, 1956	23,469,142
Thirty-three weeks, 1955	23,201,897
Average daily freight car surplus	
Wk. ended Aug. 25, 1956 ..	6,597
Wk. ended Aug. 27, 1955 ..	5,482
Average daily freight car shortage	
Wk. ended Aug. 25, 1956 ..	8,432
Wk. ended Aug. 27, 1955 ..	12,713
Freight cars on order	
August 1, 1956	126,194
August 1, 1955	42,888
Freight cars delivered	
Seven months, 1956	38,533
Seven months, 1955	19,303
Average number railroad employees	
Mid-July 1956	1,032,849
Mid-July 1955	1,091,380

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Week at a Glance CONTINUED

essay contest! To be considered for any of the three prizes—\$750, \$500 and \$250—entries must be in the hands of the executive secretary of the club by October 1. Details were reported in Railway Age, June 18, p. 13.

Largest amount of money ever provided . . .

. . . for highways at one time by any nation in history recently was apportioned to the states by Secretary of Commerce Weeks. The money—\$2,550,000,000—was the second apportionment under Federal highway legislation approved last June 29.

Regulatory plan for Alaskan transport . . .

. . . including rail, motor and inland water, is being drawn up by the ICC under a request from the Senate Committee on Interstate and Foreign Commerce, which complained of a "particularly unhealthy" competitive situation between motor carriers and the Alaska Railroad.

A broader passenger-deficit probe . . .

. . . seeking to pinpoint the effect of unprofitable passenger-train services has been asked by the Post Office Department and the National Coal Association. The NCA asked that shippers be freed of the burden of subsidizing passenger operations that lose money, and the Post Office would have the ICC exonerate mail traffic from blame for the deficit.

Diesel power . . .

. . . was providing better than 78% of total tractive force of the railroads at the beginning of this year, the ICC's Bureau of Transport Economics and Statistics reports in its latest issue of "Transport Economics." The bureau points out that total tractive force has declined 13% since 1946, and on January 1 there were 26.6% fewer locomotive units in service.

Railway Labor Act change . . .

. . . was proposed by BLE Grand Chief Guy L. Brown in statement before Republican convention Platform Committee. He said union shop provisions should be changed to provide that an employee, at the option of the carriers and the organizations, could pay to the organization representing his craft or class a sum equal to all periodic dues and assessments, but that membership in the organization would not be required.

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TREATMENT means **Longer Service Life** **Reduced Maintenance Costs**

In Amcreco cross ties, bridge timbers and piles, Lowry Process Pressure Treatment makes the big difference. The natural strength of the wood is preserved to assure long dependable service.

That's why Amcreco Products stand up for extra years under the ever increasing pounding of high speed rail traffic — have increased resistance to the effects of climate, insects and fungi. For lower overall costs and reduced maintenance, it will pay you to specify Amcreco next time.

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12 FIELD SALES OFFICES TO SERVE YOU

Summer Travel Up on Some RRs

Aggressive promotion, stress on service and incentives helped most roads compete with planes and autos—Less riders but more money is the story on several lines

"High quality service within the structure of good pricing" is the strategy relied on by the Seaboard to get its share of the growing summer travel to what are now year-round resort areas in the South.

Travel to Florida on the SAL from May through August was well above last year and even beyond mid-summer forecasts, General Passenger Traffic Manager J. R. Getty reports.

Red figures in 1953 and 1954 passenger revenues alerted this road to the "need for encouraging new patrons to travel by rail" while retaining existing business, Mr. Getty said. The season just concluded is a tribute to the steps the Seaboard took.

First of all, Mr. Getty relates, the road inaugurated low coach round-trip fares based on 150% of one-way fares and supplemented this move with "service innovations designed for passenger appeal."

Seaboard introduced grill car service and budget meals, offered all-expense tours and dangled commissions before travel agents all year-round rather than on a seasonal basis. All this then was topped off by a program of modernizing and refurbishing the road's passenger fleet.

The Payoff—Passenger revenues for the SAL for 1955 were up 9.7%, 12.2%, 6.6% and 5.6% in June, July, August and September over the same months in 1954. Revenues this year were up from the 1955 figures by 2.2% in May, 9.3% in June, 13.7% in July and 13.5% (preliminary report) in August.

The Atlantic Coast Line adds a report that "ticket revenue this summer is running between 7 and 10% over last year and the number of passengers shows a similar increase."

Coast Line General Passenger Traffic Manager J. B. Sharpton says

some of this may be business won from the airlines and private cars but he thinks "a more reasonable explanation" is that ACL is holding onto its proportion of the stepped-up summer travel to Florida.

However, he also noted that ACL's "Champion Vacations" are running about "45% over last year."

From the Northern Pacific comes the report of G. W. Rodine, passenger traffic manager, who says that in July estimated NP passenger revenues totaled \$780,000 compared with an actual \$756,098 last year — a 3.2% rise.

Mr. Rodine said that NP's revenues for the first half of 1955 were 17.2% above those for the same period in 1954, adding that he was sure some of this was won from competing forms of transport.

"It was an excellent increase," he stated, "and we hardly anticipated holding all of the traffic gained."

"However, during the first six

months of 1956 our non-military passenger revenues were \$3,100,855." In other words, Mr. Rodine said, "during the first six months of 1956, we held 88.49% of the 1955 gain."

"Losses" Mean Progress — Mr. Rodine highlighted an easily overlooked feature of the picture: the "progress" that is achieved by carrying fewer passengers—through discontinuance of "loser" passenger runs.

Dropping a branch line that carries only 10 riders a day, Mr. Rodine pointed out, means a "loss" of 3,650 from the year's total of "passengers carried." "What makes the difference," he said, "is this: For the first five months of 1956, miles per passenger on the Northern Pacific increased from 366.7 to 388.3, and revenue per passenger climbed from \$8.20 to \$8.36."

Reports from other roads indicate that, generally, summer passenger business has been, in the words of J. J. Alms, general passenger traffic manager, Burlington, "some better than last year."

Mr. Alms says that transcontinental traffic, especially, has improved, but says "the family car still seems to be one of our greatest forms of competition insofar as summer vacation travel is concerned."

Crash Conscious—The Central of Georgia, however, feels that "the traveling public is getting conscious of the great number of highway and air fatalities and is, in some degree, returning to rail travel."

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T. J. Stewart, passenger traffic

NEW FREIGHT-RATE INCREASE IN THE OFFING

A request for an additional freight-rate increase of 5% to 10% was expected to result from a Washington, D.C., meeting of representatives of western and eastern railroads which was in session as this issue of *Railway Age* went to press.

"The western railroads want to file for the increase as soon as the supporting evidence can be brought together and the exact amount of the increase agreed upon," H. C. Barron, chairman of the Western Traffic Association, told *Railway Age*. He indicated the application could be filed anytime within the next 45 days.

Southeastern railroad representatives had been invited to last week's Washington meeting but, assertedly being somewhat cold to the idea of a freight-rate boost at this time, were reported just "sitting in."

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manager, of the C of Ga, also comments on this angle, noting that while discontinuance of three trains cut into passenger totals, passenger revenues actually rose in the last 18 months.

Higher fares actually meant more revenues to the Louisville & Nashville, despite some fears raised when the railroads and Pullman Company announced general increases.

Noting that the "average distance traveled per passenger has also increased," L&N Vice-President J. K. Dent acknowledges losses to air lines and the private car, but maintains that L&N experience is that "the travel by railroad holding up best has been that for distances of 600 or more miles."

This is generally too far to drive in a day, he says, while "railroads

can provide overnight service without loss of time to patrons." But it "can only be made profitable between heavily populated centers where there is regular commercial travel."

Rio Grande Passenger Traffic Manager H. F. Eno says he is "quite pleased" with this summer's business, which has been aided by higher fares. He says "certainly the volume is comfortably ahead of last year."

Congested highways turn some travelers to the rails, Mr. Eno said, but noted that the road's promotion efforts also contributed. A spokesman for the Wabash reported similarly with the comment that "the efforts of our passenger sales force in creating occasions for travel, the intensive solicitation of organized group movements" and family fares all were helpful in booming business.

Demurrage Hike Off 7 Months

The weight of a reported 400-plus protests against increased demurrage charges which were to have been effective September 1 has prompted the ICC to suspend operation of the increases to March 1, 1957. The

commission entered an order to that effect August 28. Originally, the railroads proposed to have the effective date be August 1—a surprise to shippers who had not expected the increases to be asked for before Sep-

tember 1. A tariff supplement subsequently fixed the later date.

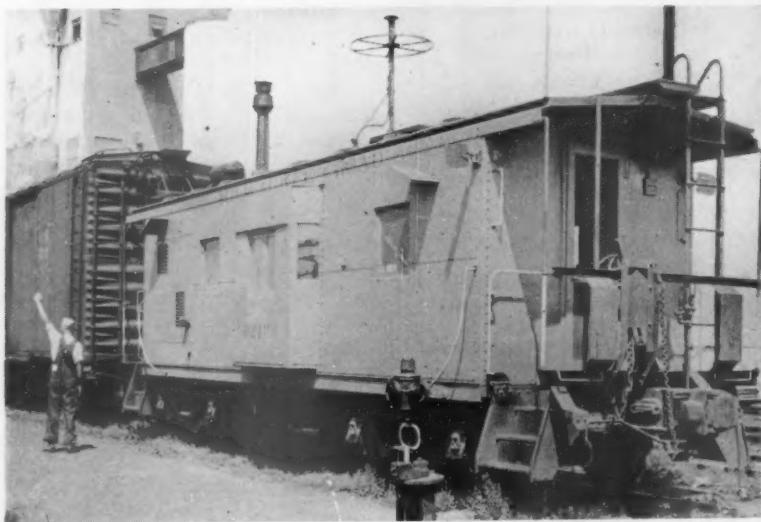
The National Industrial Traffic League reported August 24 that more than 400 protests and applications for investigation and suspension of the higher charges had been filed with the commission. Whether or not the railroads will seek to appeal the commission's suspension order was not immediately known.

The higher rates as filed by the railroads were to be \$4 for each of the first two days after the free-time allowance, \$7 for each of next two chargeable days, and \$10 a day thereafter.

Bridge Fire Cripples California Short Line

Fire last week totally destroyed the Feather River's timber trestle over the Feather River near Land, Cal. The fire cut the Feather River road near its connection with the Western Pacific, thereby isolating the short line.

Service over the road is not expected to be restored until about October 1. Cost of repairing the bridge has not been made public. The short line is controlled by the Feather River Pine Mills, Inc.



All the Comforts of Home in This New Caboose

One hundred new all-steel cabooses like this one, built for the Milwaukee by the Thrall Car Manufacturing Company, provide electric power for refrigerator, stove, interior lighting and marker lamps as well as radio for communication with locomotive and wayside stations. Power is furnished either by diesel plant or axle-driven generator. Roofs, sides

and ends have 3-in. insulation, while the floor has 2-in. cork insulation. For riding comfort, the cars have equalizers, swing-hanger trucks and cushion underframe. One of the cabooses will be exhibited at Chicago's Union Station on Track 1 during the Coordinated Mechanical Associations' convention September 10-12.

ICC Advised to Rule For Riss in Safety Case

An ICC examiner has recommended that the commission dismiss a complaint of wilful violation of safety regulations brought by the Ohio Public Utility Commission against the Riss trucking company.

The PUC seeks to have the commission find that, because of violations of Ohio laws by Riss, the carrier is not a fit or proper party to operate as a common carrier in and through Ohio. The PUC petition alleged that Riss had amassed about 780 violations of traffic and carrier regulations from 1950 through 1953, many of which were considered violations of safety rules, while there were some 290 arrests of Riss drivers in Indiana in 1954 and 1955.

The ICC examiner, Walter D. McCloud, however, also noted in his report to the commission that Riss drivers totaled five violations in New Jersey between 1950 and 1956, 22 in Pennsylvania in 1955 and 1956, (Continued on page 10)

RAILWAY MARKET OUTLOOK THIS WEEK

a RAILWAY AGE Workbook Page

Carloadings Up.—Loadings of revenue freight in the week ended August 25 totaled 770,413 cars, the Association of American Railroads announced on August 30. This was an increase of 789 cars, or 0.1%, compared with the previous week; a decrease of 16,859 cars, or 2.1%, compared with the corresponding week last year; and an increase of 93,715 cars, or 13.8%, compared with the equivalent 1954 week.

Loadings of revenue freight for the week ended August 18 totaled 769,624 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS			
For the week ended Saturday, August 18			
District	1956	1955	1954
Eastern	119,793	120,012	108,861
Allegheny	147,335	147,325	121,298
Poconchos	65,144	61,950	46,925
Southern	126,262	122,979	113,202
Northwestern	125,539	136,663	115,763
Central Western	128,147	128,303	116,533
Southwestern	57,404	58,469	56,042
Total Western Districts	311,090	323,435	288,338
Total All Roads	769,624	775,701	678,624
Commodities:			
Grain and grain products	56,094	53,089	53,112
Livestock	9,339	6,849	9,059
Coal	138,416	129,145	110,641
Coke	10,691	12,644	6,841
Forest Products	49,121	48,347	39,328
Ore	78,962	87,637	39,037
Merchandise i.c.l.	60,350	63,723	62,621
Miscellaneous	366,651	374,267	337,985
August 18	769,624	775,701	678,624
August 11	715,236	770,251	685,272
August 4	660,287	760,387	667,592
July 28	649,806	790,426	683,617
July 21	648,492	781,908	684,281

Cumulative total,
33 weeks ... 23,469,142 23,201,897 21,165,319

In Canada.—Carloadings for the seven-day period ended August 14 totaled 92,255 cars, compared with 88,352 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
August 14, 1956	92,255	25,303
August 14, 1955	85,171	31,779
Cumulative Totals:		
August 14, 1956	2,689,078	1,087,601
August 14, 1955	2,416,059	1,003,230

Purchases and Inventories

► **Six Months' Purchases Up \$163.1 Million.**—Purchases by domestic railroads of all types of materials in first half of 1956 were \$163,145,000 above those in same period last year, according to following tables prepared by Railway Age research department:

	June 1956	Six Months 1956	Six Months 1955
	(000)	(000)	(000)
Equipment**	\$ 53,140	\$ 252,786	\$ 313,909
Rail	7,320	53,613	51,441
Crossties	7,687	40,627	26,626
Other Material	114,373	679,189	467,852
Total from Manufacturers	\$182,520	\$1,026,215	\$ 859,828
Fuel	35,663	221,483	224,725
Grand Total	\$218,183	\$1,247,698	\$1,084,553

*Subject to revision.

**Estimated value of orders.

INVENTORIES*†

	June 1, 1956	June 1, 1955
	(000)	(000)
Rail	\$ 55,043	\$ 51,086
Crossties	88,391	100,421
Other Material	549,329	480,846
Scrap	18,765	18,748
Fuel	29,059	29,128
Total	\$740,587	\$680,229

*Subject to revision.

†All total inventory figures taken from ICC statement M-125 for month indicated.

Overseas

► **Burma.**—Eight "meter-gage three-car diesel train units" will be bought by this country's Railway Board, according to Foreign Commerce Weekly; specifications and tender conditions are available, at \$6.30 a copy, from Embassy of Burma, 2300 S street NW, Washington, D.C.; the board also invites bids for construction of a railway bridge over the Sittang river, tender documents for which are available from the embassy.

New Facilities

► **Baltimore & Ohio.**—Ordered equipment from General Railway Signal for installation of Syncrostep for remote control of interlocking at Blaser, W. Va., from West End, 3.1 miles away.

► **Canadian National.**—Has invited bids for first phase of construction of new 22-mile branch line from Bartibog, N.B., to Heath Steele mine site at Little Tomogonops River; total cost about \$3 million; scheduled for completion in fall, 1957.

► **Canadian Pacific.**—Will start next spring on relocation of track in western Ottawa to minimize freight movements in city and clear way for "Queensway" road project; relocation ties in with similar work being done by Canadian National; to be eliminated are Sussex st. branch, use of Interprovincial Bridge between Ottawa

RAILWAYS IN THE MARKET—THIS WEEK

CONTINUED

and Hull, and CPR lines running west out of river front section.

► *Chicago & Eastern Illinois*.—Ordered equipment from General Railway Signal for installation of Syncrostep for remote control of interlocking at Woodland Junction, Ill.; control machine will be at Watseka, 4 miles away.

► *Chicago Transit Authority*.—Will spend \$247,000 this summer renewing ballast on grade level and fill sections of its North-South and Ravenswood rapid transit lines.

► *Denver & Rio Grande Western*.—Placed two orders for equipment with General Railway Signal: one for carrier Syncrostep for remote control of an interlocking at Tapp, Colo.; other for automatic retarder control at East Yard, Grand Junction, Colo.

► *Erie*.—Ordered equipment from General Railway Signal for installation of remote control at Central Valley, N.Y.; control machine to be in Jersey City, 50 miles away.

► *Louisville & Nashville*.—Scheduled construction of track to new coal mine near White City, Ky., (\$118,845); installation of new cutting equipment in South Louisville, Ky., shops (\$35,305); and reconstruction of fenders on Pearl River Bridge (\$31,740).

► *Milwaukee*.—Has started construction of new five-track freight yard and 60-car icing facility at Othello, Wash.; estimated cost \$530,000; new yard expected to be completed this fall.

► *Missouri Pacific*.—Will reconstruct bridges at 10 locations, install bridge timber prefabricating equipment at North Little Rock, Ark., and install deflector dikes and channel retarders, Brazos River, Goodland, Tex., at total cost of \$658,100; will install new yard and locomotive servicing facilities costing \$484,790 at eight points; gantry cranes and ramps for piggyback service are being installed at North Little Rock, Monroe, La., Wichita, Houston, and San Antonio, at cost of \$285,690; land being purchased in Kansas City, Mo. for t-o-f-c operations and for new hump yard (Railway Age, May 14, p. 9), will cost \$535,300.

► *New Haven*.—Ten miles of this road and approximately two of the Boston & Albany are to be relocated in construction of Thomaston (Conn.) Dam by U.S. Army Corps of Engineers; backflooding from dam will inundate segments of both roads in Thomaston area.

► *New York Central*.—Has consolidated its South Water Street, Chicago, and Polk Street freight houses at its Winchester Avenue facility for out-bound less-than-carload freight; in-bound LCL freight will continue to move through Polk Street freight house until September 1 when that operation too will go to Winchester Avenue.

► *Norfolk & Western*.—Will increase capacity of its South Norfolk, Va., yard by 2,500 cars before end of year through laying some 24 miles of new trackage at cost of over \$1,000,000; plan calls for rearrangement of eight present tracks and installation of 32 new yard tracks with capacities from 39 to 81 cars each; five existing tracks will be extended to accommodate 200-car trains and will be equipped with remotely controlled power-operated switches.

(Continued from page 8)

and 28 in Kansas from 1953 to March 1956 of which "a majority . . . was for other than moving violations." Additionally, the examiner said, the Riss record in Missouri was found to be "very good" from a safety standpoint.

Mr. McCloud also detailed at some length expenditures by Riss for new equipment, which, with new hiring practices and operating requirements for employees, are designed to improve the company's safety record.

Riss & Co. is one of five motor carriers which recently arranged with the Pennsylvania and Missouri-Kansas-Texas for a southwest-northeast piggyback operation. Riss also is involved in a \$90 million damage suit pending against the railroads which, Riss said in filing the suit, had conspired to harm Riss' business (Railway Age, Aug. 27, p. 4).

Cotton Belt Will Extend TOFC to Eastern Points

On September 8 the Cotton Belt will expand its piggyback operations to provide through service between New York, Washington, Philadelphia, Baltimore and other Eastern points, and points in Arkansas, Louisiana and Texas.

The Cotton Belt inaugurated TOFC service last year between St. Louis and points in Arkansas, Louisiana and Texas. Since then, the service has been extended to Chicago, the Twin Cities, Milwaukee, various Wisconsin points, Detroit, Cleveland, Pittsburgh, Buffalo, Cincinnati and Louisville.

Twin Cities—Twin Ports Pool Service Cut Planned

The Great Northern, Northern Pacific and Soo Line have asked the ICC to permit service and schedule adjustments in their St. Paul, Minneapolis-Duluth, Superior pool passenger service.

The petition, filed jointly by the three carriers, said "out-of-pocket losses run approximately \$770,000 annually on the Twin Cities-Twin Ports passenger service, but by discontinuing services that have comparatively little patronage, the losses could be cut to about \$537,000."

The three roads would discontinue morning pool train Nos. 61 and 62

over the NP; revise the schedule of Soo Line afternoon pool train Nos. 62 and 63 to permit turn around service; discontinue overnight Pullman service on pool train Nos. 65 and 66 over the NP; and discontinue parlor lounge cars on morning pool train Nos. 23 and 24 over the GN.

May Accidents

The ICC has made public its Bureau of Transport Economics and Statistics' preliminary summary of railroad accidents in May and this year's first five months. The compilation, subject to revision, follows:

Item	Month of May 1936 1955		5 months ended with May 1936 1955	
Number of train accidents*	759	664	3,803	3,261
Number of accidents resulting in casualties	45	34	228	173
Number of casualties in train, train-service and nontrain accidents:				
Trespassers:				
Killed	73	66	276	252
Injured	79	63	303	277
Passengers on trains:				
(a) In train accidents*				
Killed	24	13	43	178
Injured			587	
(b) In train-service accidents				
Killed	2	1	8	3
Injured	101	113	663	668
Travelers not on trains:				
Killed				4
Injured	59	59	365	383
Employees on duty:				
Killed	16	15	100	90
Injured	1,564	1,353	7,567	6,744
All other non-trespassers:**				
Killed	103	101	584	569
Injured	365	322	2,278	2,194
Total—All classes of persons:				
Killed	194	183	1,009	918
Injured	2,192	1,923	11,763	10,444

*Train accidents (mostly collisions and derailments) are distinguished from train-service accidents by the fact that the former caused damage of \$375 or more to railway property. Only a minor part of the total accidents result in casualties to persons, as noted above.

**Casualties to "Other non-trespassers" happen chiefly at highway grade crossings. Total highway grade-crossing casualties for all classes of persons, including both trespassers and non-trespassers, were as follows:

Persons:				
Killed	100	90	577	522
Injured	251	215	1,584	1,531

UP Readjusts Some Passenger Schedules

The Union Pacific will discontinue the Chicago-Omaha, Neb., through sleeping car and coach on trains 27 and 28, the "Overland." When the change takes place, September 23, the "Overland" will become a head-end train with only a rider coach between Omaha and Ogden, Utah.

At the same time, the second section of Nos. 5 and 6 ("The Mail"), currently operating between Omaha and Ogden, will be redesignated

trains Nos. 7 and 8. It will carry two through Omaha-Los Angeles Coaches and sleeping cars between Cheyenne, Wyo., and Ogden and between Las Vegas, Nev., and Los Angeles.

KC Terminal to Sell Its Own Tickets

The Kansas City Terminal, which operates the Kansas City Union Station for the twelve railroads serving the area, plans to begin selling its own book-type railroad tickets sometime this week.

Heretofore, the terminal company has stocked a complete supply of all the various types of tickets issued by the twelve roads. By using the new form, ticket stocks will be reduced by some 300 forms.

This is the first instance of a

No. 7 will leave Omaha at 10:05 a.m. and arrive Los Angeles the second morning at 5:30 a.m. No. 8 will leave Los Angeles at 10:00 p.m. and arrive in Omaha the second evening at 7:00 p.m.

large joint railroad station using a single uniform ticket stock. For speed and convenience, however, some individual railroad card tickets will continue to be used for single destinations.

Only other application of this uniform ticketing procedure is in the Chicago railways' hotel ticket offices. It is understood the Chicago Union Station Company is considering a similar simplification by issuing its own ticket stock.

Green Light for Erie-DL&W Plan

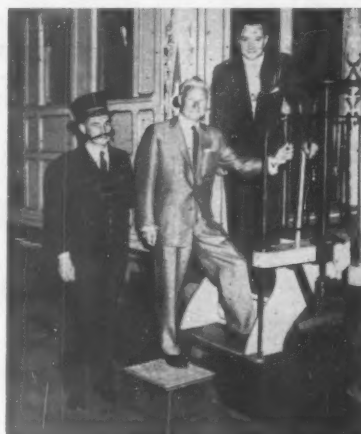
The ICC authorized last week the first steps in the Erie-Lackawanna coordinated services plan for handling the Erie's trains in the DL&W's Hoboken, N. J., terminal.

The commission authorized the roads to proceed with construction of three segments of track which will enable Erie trains to enter the Lackawanna terminal. By the same order, the commission also granted the Erie trackage rights over such DL&W tracks it must use to enter the Lackawanna station and to acquire joint use of the terminal facilities and ferry service across the Hudson River into downtown New York City.

Still pending before the ICC is an application by the Erie to abandon its ferry service to New York City from Jersey City—an action which contemplates eventual abandonment of the Erie's passenger facilities at Jersey City (Railway Age, Apr. 16, p. 35).

The ICC reported it had been advised that two key segments of track that must be constructed can be built in two months, after which all Saturday, Sunday and holiday trains, and the through-trains of the Erie and the New Jersey & New York, other than rush-hour trains, will be shifted to the Lackawanna station. Transfer of rush-hour commutation trains, it was indicated, will be accomplished in about five months. The New Jer-

sey & New York also was granted trackage rights into the Lackawanna's Hoboken station.



"Sam Hill" Runs Again

When Chesapeake & Ohio donated 600-ton, 2-6-6-6 Allegheny-type steam locomotive to Henry Ford museum at Dearborn, ceremonies featured operation of 1860 wood-burning locomotive "Sam Hill" drawing a wooden coach from Michigan Central Terminal, Detroit, to Smith's Creek Station, Greenfield Village. Here, W. J. Tuohy (center), president of the C&O, boards the old coach to join W. C. Ford, president of museum, while New York Central Assistant Station Master George Hackman, in costume, stands by.

More Rent-A-Car Discounts Offered

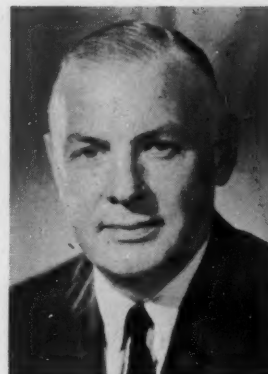
Agreements have been concluded between the Hertz Rent-A-Car System and the Union Pacific, the Burlington and the Chicago & North Western which will give purchasers of round-trip railroad tickets a 5% discount on rental of Hertz cars.

Discount agreements cover 56 cities served by the three roads. Passengers buying round-trip tickets to these cities from any point on the railroad will receive a coupon entitling them to 5% discount when presented at a Hertz office along with the return portion of the railroad ticket.

This is the first large-scale appli-

cation of the rent-a-car discount arrangement. The Santa Fe and the UP have had the plan in effect for car rentals in Los Angeles for nearly a year. "The plan is operating successfully, although it got off to a slow start," a Hertz spokesman told Railway Age.

The discount arrangement is now in effect on the Chicago & Eastern Illinois, the Illinois Central, and the Pennsylvania to Miami, Fla., and on the Chesapeake & Ohio to Colonial Williamsburg, Va. Hertz is negotiating with the Baltimore & Ohio for further extensions of the plan to various eastern cities.



A. KING McCORD, who has been appointed president and chief executive officer, Westinghouse Air Brake Company, as announced in Railway Age, Aug. 20, p. 12.

Canadian Trainmen Get Wage Boost

An immediate 7% wage increase retroactive to April 1, and an additional 5% increase to become effective next June 1, are provided by a 26-month wage contract recently signed in Montreal by representatives of the Canadian Pacific and the Canadian National and the Brotherhood of Railroad Trainmen. The union originally had presented the

railroads with demands for a 30% wage boost.

The wage increase includes \$4.25 per month per employee in lieu of health and welfare benefits. Also included are graduated rates for trainmen in freight road service on trains over 80 cars long, and six statutory holidays with pay for trainmen in yard service.

Organizations

Coordinated Mechanical Associations.—The Air Brake Association, the Car Department Officers' Association, the Locomotive Maintenance Officers' Association and the Railway Fuel and Traveling Engineers Association will meet in the Hotel Sherman, Chicago, September 10-12. D. B. Jenks, president of the Rock Island, will be principal speaker at the presidents' luncheon on September 11. J. M. Budd, president of the Great Northern, will address the September 10 morning session of the car department officers' group.

Eastern Association of Car Service Officers.—Next meeting will be held in the Sheraton-Belvedere Hotel, Baltimore, November 1-2.

Fire Protection and Insurance Section, AAR.—Annual meeting will be held in the Hotel Statler, Detroit, October 22-24.

Traffic Club of St. Louis.—New officers are: President, Charles W. Brandenburg, Chesapeake & Ohio; first vice-president, Hugo Waninger, Anheuser-Busch, Inc.; second vice-

president, Frank A. Frawley, Baltimore & Ohio; third vice-president, Melven E. Iten, Monsanto Chemical Company; fourth vice-president, O. H. Telthorst, Republic Carloading & Distributing Company; fifth vice-president, George J. Brennan, Coca Cola Company; secretary-treasurer, Stuart A. MacCready, Norfolk & Western.

Supply Trade

Don W. Hoffman, formerly a salesman for Westinghouse Electric Supply Company, has joined Superior Cable Corporation, Hickory, N. C., as industrial sales manager.

Spring Packing Corporation has appointed **Stan H. Haigh** Company of St. Paul as its representative in the Twin Cities area.

Western Railroad Supply Company, which recently purchased the railroad supply business of the Buda Division of Allis-Chalmers Manufacturing Company, has made two additions to the staff of its newly formed maintenance of way division. **Karl R. Waller**, who was assistant

to the sales manager of the railroad and industrial division of the Buda Division, has been appointed general



Karl R. Waller

manager, and **W. J. Joy**, formerly with the Illinois Central, has been named sales manager.

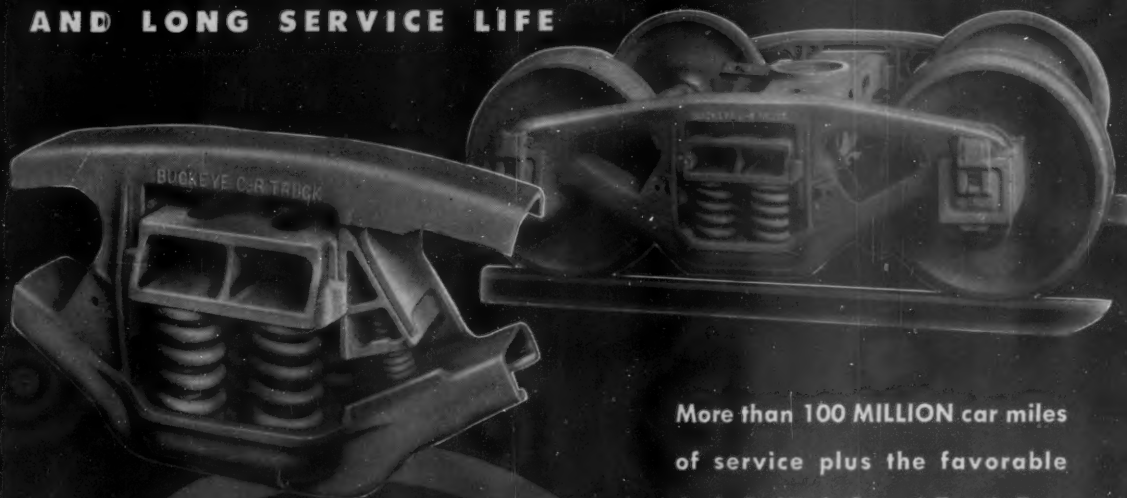
Fred W. Segerstrom, manager of transportation sales for **L. O. F. Glass Fibers Company**, has been appointed general sales manager of the general products division.

S. M. Bevins, sales engineer, **Blaw-Knox Company**, has been named assistant manager of the grating department, in charge of all railway grating sales. **H. R. Loxterman** has been advanced to general sales manager and **Edward W. Pottmeyer** to manager of engineering and development, Blaw-Knox equipment division. Mr. Loxterman has been assistant general sales manager of the division and Mr. Pottmeyer chief product engineer of the steel plant equipment department.

C. Raymond Ahrens, Inc., has been appointed sales representative for **Arnex Chemical Company**.

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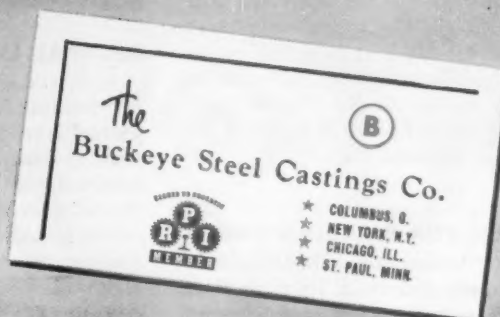
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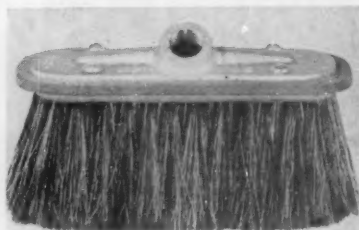
PASSENGER-CAR WATER PROTECTION

The automatic ClorDolor system consists of a Model R Everclor automatic chlorinator at each car water tank and an Everpure water purifier at each drinking water cooler and in each dining car kitchen. The device is actuated by the train air supply and automatically feeds a measured amount of sodium hypochlorite to the car water tank each time water is put aboard. The dosage is regulated to kill bacteria, algae and other organisms throughout the entire water system and to leave sufficient residual to take care of any emergency contamination which may occur. This superchlorination of the entire water supply is said to safeguard the drinking water under all conditions, improve sanitation, and kill bad odors in lavatories and kitchens.

The ClorDolor system was developed for the Santa Fe and first used on its "El Capitan" cars about three years ago. It is in use on the new high-level "El Capitan" cars recently put into service. *Tested Appliance Company, Dept RA, 2627 West 19th st., Chicago 8 •*

BRUSH FOR WASHING CARS

An intermediate-size fountain brush, with bristles of 100% du Pont Tynex nylon, can be used on paint



or enamel surfaces. It is said that bristles will not mat or scratch and can be used in boiling water.

The head of the brush, Model LS9, is 8 by 3 in. It weighs 1 lb 10 oz complete and is slightly more maneuverable than larger bushes. No extra equipment is needed. It has a 4-ft corrosion-resistant aluminum pipe for connection with water hose. Water is delivered through the handle, through perforations in the brush, and through the bristles to the surface being washed. Scrubbing, washing, and rinsing are done in one operation.

Four bolts hold the brush element securely to the head. Both are of cast aluminum. The brush element is replaceable or refillable. The head is surrounded by a rubber bumper. Bristles are 2 $\frac{5}{8}$ -in. long. The brush can also be had with bristles of 50% Tynex and 50% horsehair. *K. C. Fountain Brush Company, Dept. RA, 3714 Main st., Kansas City, Mo. •*



JOURNAL LUBRICATOR

AAR authority has been granted for installation of the JBS Acme journal lubricator in 10,000 cars in general interchange service. The lubricator is reclaimable. It consists of a combination of wool and cotton materials, each of which, according to the manufacturer, is highly oil-retentive and provides excellent capillarity. A multiplicity of

wool-cotton yarn loops are secured to both top and bottom faces of the pad with none extending beyond the vertical sides.

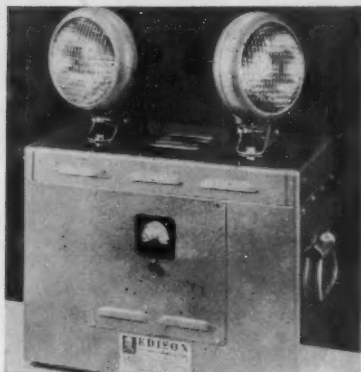
A 100% wool batt core is said to furnish maximum oil flow to the journal bearing, to provide a ready reservoir of filtered oil, and to assure required resiliency. A number of yarn stays pass through the entire pad to give internal stability. The lubricator is available in two sizes, "9-10" for 5 in. by 9 in. and 5 $\frac{1}{2}$ by 10 in. AAR standard journal boxes, and "11-12" for 6 by 11 in., and 6 $\frac{1}{2}$ by 12 in. standard boxes. The respective sizes are permanently identified on a marker between the grommets which are used for removing the lubricator from the box. *Journal Box Servicing Corporation, Dept. RA, 332 South Michigan ave., Chicago 4 •*



NAILING MACHINE

Tacks, nails, and screws, from $\frac{1}{4}$ to 3 $\frac{5}{8}$ -in., are said to be fed and driven automatically at rates as high as 300 per min. by Powasert portable equipment. The machine drives nails from 2 to 16 penny at any angle either in hard or soft woods. The gun comes in three sizes: small—11 in. long, weighing less than 5 lb; medium, for crating, box and pallet making—14 $\frac{1}{4}$ in., 6 lb 3 oz; and large, for the building and construction trades—18 $\frac{1}{2}$ in., 7 lb. All three guns can be used interchangeably with the automatic feeder which is mounted on a dolly. The gun, as well as the feeder, is air powered and nails are fed by air through a

flexible tube. Users report driving up to 50 nails per min. *United Shoe Machinery Corporation, Dept. RA, 140 Federal St., Boston 7 •*



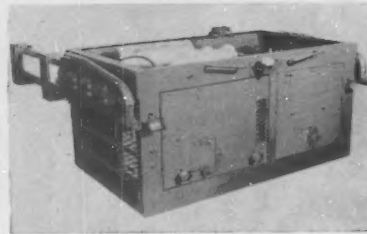
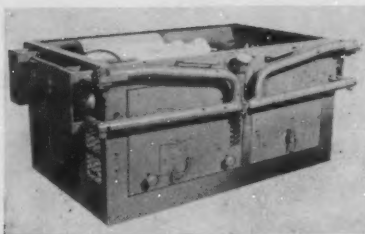
EMERGENCY LIGHTING UNIT

The two 25-watt sealed-beam flood lamps of this lighting unit automatically switch on in the event of a power failure and off again when regular power is restored. The unit is wired into a standard 115-volt a-c line and the 5-cell B4H Edison nickel-iron-alkali battery is kept trickle charged. When power fails, a relay switches on the lights which will burn for periods up to 8 hr. When power is restored, the battery automatically switches back to charge. *Edison Storage Battery Division, Thomas A. Edison, Inc., Dept. RA, West Orange, N.J. •*

PORTABLE CARGO COOLER

This Model 83-1-X portable cargo cooler for trailers in "piggyback" operation has a thermostatically controlled forced-air circulation system with a 21-block 1,050-lb dry ice capacity. The unit, mounted on steel casters, rolls easily into place in the rear of the trailer after cargo has been loaded. Its weight is quickly transferred from the casters to spring-loaded leveling jacks for solid support on the floor. Brackets on the rear of the unit permit easy attachment to the side of the trailer. The unit can then be connected to a power source.

The cooler, which employs three axial flow blower fans circulating air at 1,500 cfm, operates on 12 volts d-c or 115 volts a-c. The blowers are positioned to move air in different directions, and are said to



TRANE diesel engine-compressor railroad air conditioning unit (left) as it would appear in normal "under-car" operating position. The same unit (right) as it would appear in "rolled-out" position for servicing.

"ROLL-OUT" AIR-CONDITIONING UNIT

This "roll-out" air-conditioning unit, for under-car installation, measures 55½ by 33½ by 25⅞ in., including the integral extension tracks. The diesel engine is directly connected to the air-conditioning compressor. Its use is said to eliminate about 50% of the electrical load required for the operation of conventional cooling.

Flexibility of design facilitates its application on conventional cars, suburban or gallery cars, and partial or full-dome cars. Refrigeration capacity is 15 tons.

In the engine-compressor package are an engine-cooling system, fuel and lubricating oil filters, compressor controls, flexible refrigerant and fuel lines, and electrical cables. Internal wiring and piping is complete.

The self-sealing couplings on refrigeration hoses and disconnect plugs and receptacles for electrical cables are standard.

The compressor is a Trane nominal 15-ton, 6-cylinder reciprocating

machine with 2½-in. bore and 2-in. stroke. It is equipped with unloaders to modulate capacity with cooling demand. Speed of the engine and compressor is adjustable from 1,200 to 1,800 rpm. A 10-ton compressor can be supplied.

The Continental diesel engine, which uses No. 2 diesel fuel, is designed to operate continuously during the period cooling is required. It is a 4-cylinder model which can be started from inside the car, or at the unit. A magnetically operated friction clutch engages the compressor upon demand from a thermostat.

Controls for this air-conditioning package include a refrigeration dual pressure safety switch, a diesel engine low-oil pressure and high-water temperature safety switch, compressor test switch, and engine-starting equipment. Controls are mounted on a control panel which also has compressor oil pressure, suction pressure and discharge pressure gages with shut-off valves. *Trane Company, Dept RA, La Crosse, Wis. •*

provide thorough circulation of refrigerated air throughout the cargo section. *Hunter Manufacturing Company, Dept. RA, 30525 Aurora road, Solon, Ohio*

GENERAL PURPOSE FLOODLIGHT

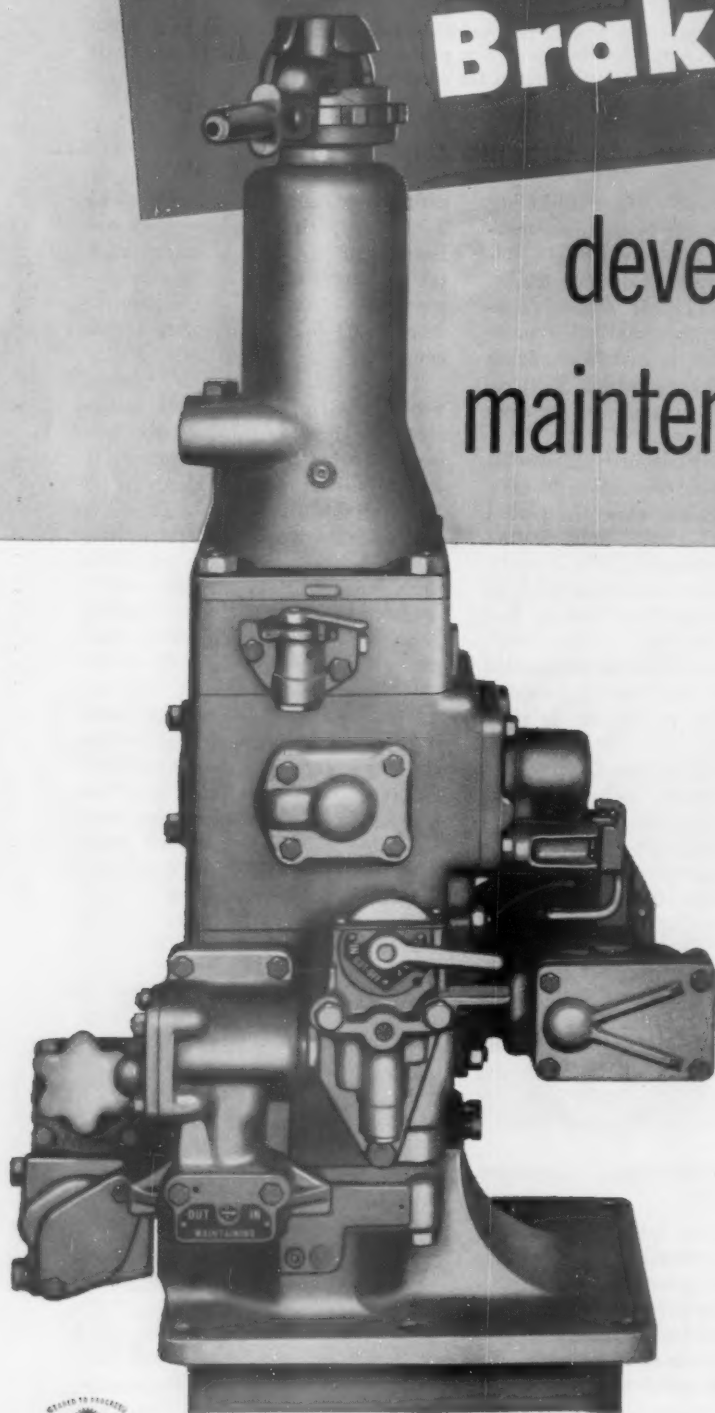
Less weight, better performance and increased flexibility are features of the L-69A general purpose floodlight, according to the manufacturer. It is designed for three different beam selections—wide angle for maximum dispersion, medium for the middle range illumination, and the narrow beam for concentrated



light. The 17-lb unit may be mounted horizontally, or with the aid of a built-in wrench positioned vertically. *General Electric Company, Dept RA, Schenectady 5, N.Y. •*

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develops outstanding
maintenance economies




THE Brake Pipe Pressure Maintaining Feature provides more uniform distribution of braking throughout the train. It develops these outstanding maintenance economies—

1. Less rigging maintenance and fewer damaged brake heads.
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These economies can be realized on 24-RL Brake Valves now in service by substituting a Conversion Filling Piece for the existing filling piece.

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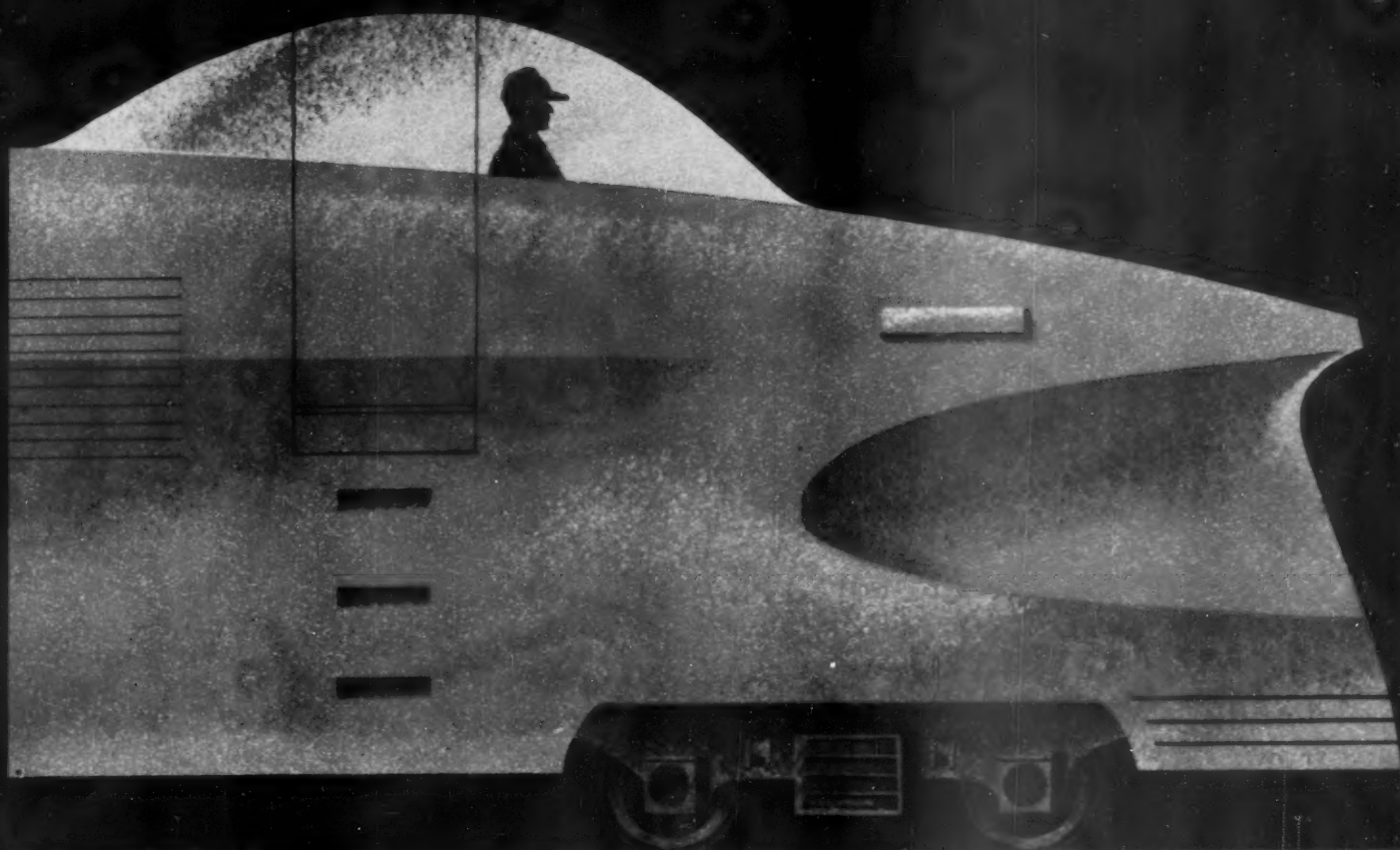
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A FOUR PAGE PROGRESS REPORT



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Today's lightweight trains don't even slow down for curves. Their sustained high speeds are tough on their engine bearings.

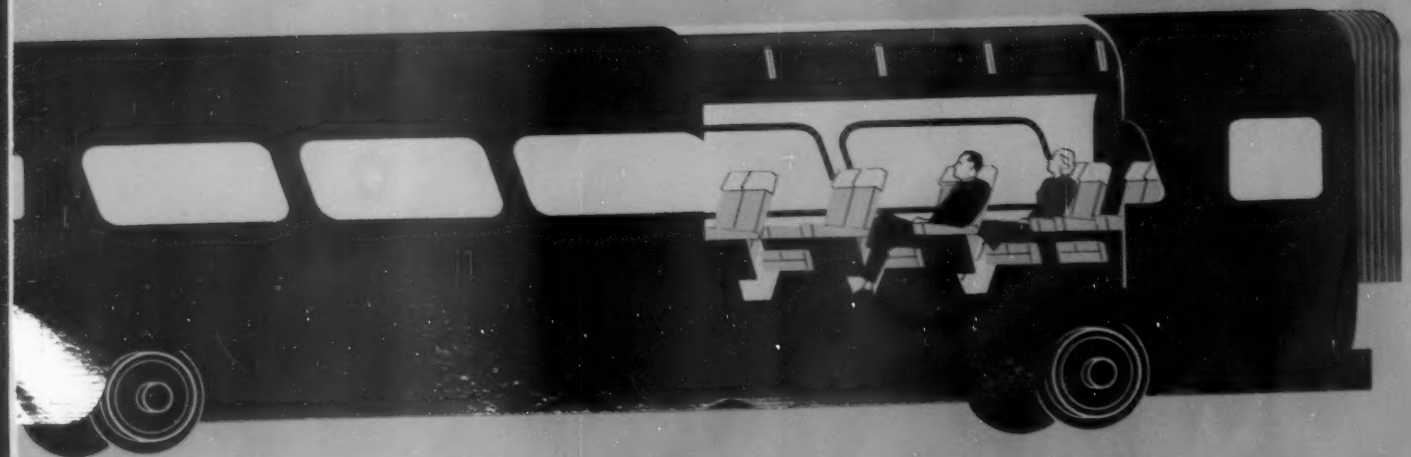
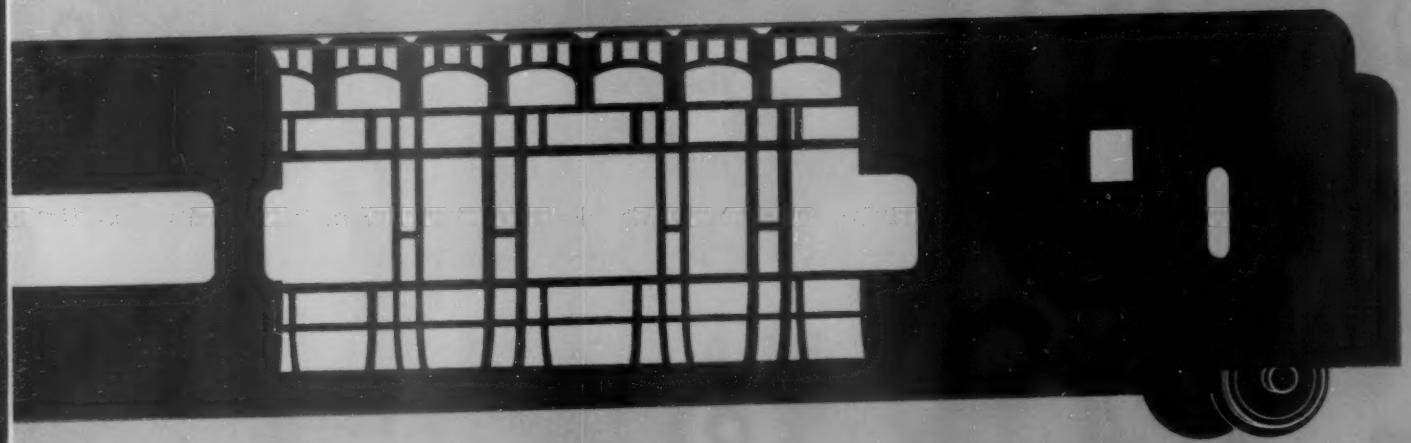
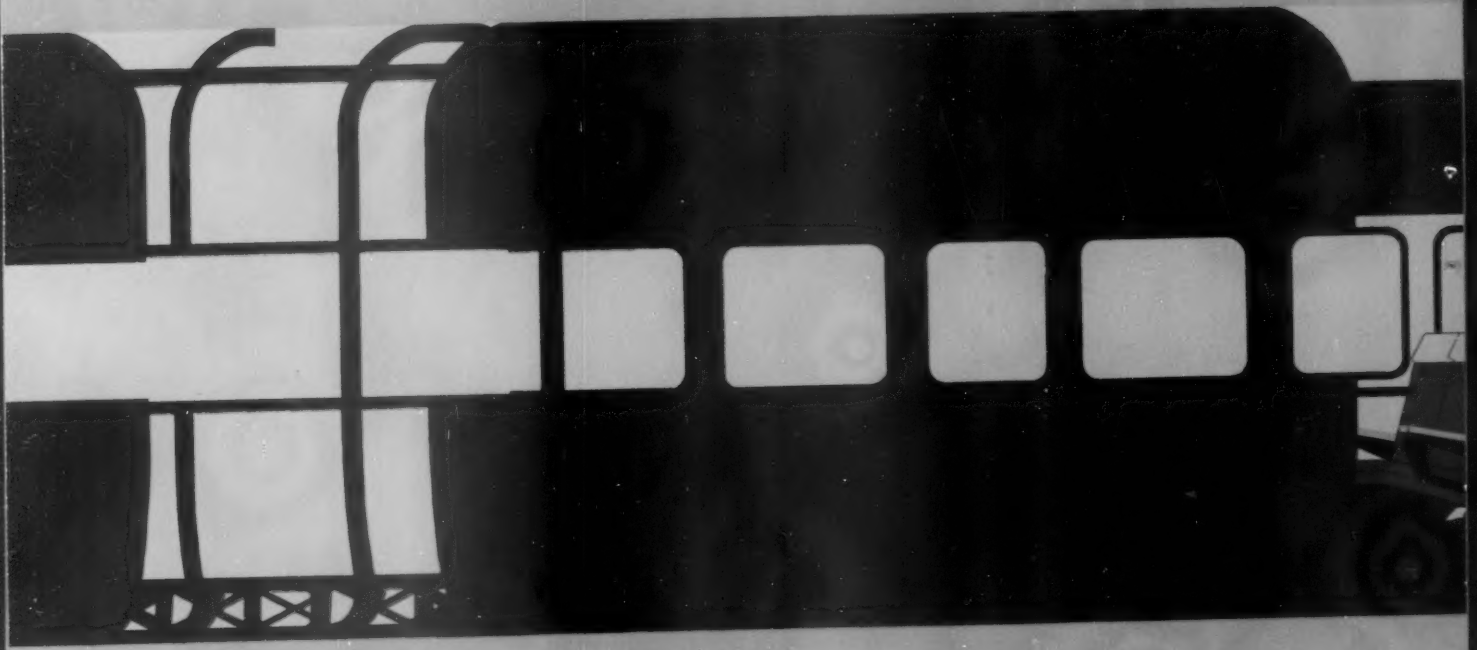
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Alcoa Aluminum in



new lightweight trains



Talgo...Aluminum Superstructure

Talgo trains, built by ACF Industries for the Rock Island, New Haven, and Boston & Maine, have Alcoa Aluminum superstructure members to keep down train weight.

The inside sheathing of Talgo trains is also aluminum with a pressure-applied vinyl coating. Baggage rack moldings are extruded aluminum and other interior appointments are aluminum. All the aluminum in Talgo trains was supplied by Alcoa.

Aerotrain...Aluminum Body

The General Motors Aerotrains have aluminum bodies. The outer sheathing is anodized aluminum. This provides a hard, durable surface which is even more corrosion resistant than aluminum itself.

Aluminum is also used in the Aerotrain's bulkheads, doorframes, steps, baggage-door panels and rivets. The revolving entranceway platforms are aluminum tread plate; also the air ducts for heating and air conditioning are aluminum. Many interior appointments are aluminum including the baggage racks, seat backs and moldings.

Train X...the All-Aluminum Train

Train X, built by Pullman Standard for the New York Central and New Haven, is the lightest of the new lightweight trains. Weight is only one-third that of conventional equipment.

Train X is the all-aluminum train, and the light weight of aluminum makes the Train X concept possible. For example, it permits the single-axle design without excessively short cars. Alcoa supplied all the aluminum for Train X and helped Pullman Standard engineer the design.

The aluminum underframe will resist a compressive force of 800,000 lbs. Superstructure framing employs high-strength, corrosion-resistant Alcoa alloy, 6061-T6.

The outer structural sheets of Train X are high-strength aluminum alloy clad with pure aluminum for extra corrosion resistance. The N. Y. C. "Xplorer" has a painted surface. The New Haven's Train X will have an anodized surface in a striking dark and light gray checkerboard design.

Interior panels are plastic-coated aluminum sheet mounted in rubber gaskets. Interior appointments are also aluminum. Doorways and vestibules are covered with recently-developed Alcoa Abrasive Tread Plate.

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There are hundreds of places in railroading today where equipment can be made better, cheaper or lighter with Alcoa Aluminum. We would like to explore them with you. Alcoa has unmatched facilities to help you imagineer in aluminum. Aluminum Company of America, 2180-J Alcoa Building, Pittsburgh 19, Pennsylvania.



**Your Guide to the Best
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THE ALCOA HOUR—Television's Finest Live Drama
Alternate Sunday Evenings

For Train X — a radical new electrical system of **Alcoa® Aluminum**

There are no wheel-driven generators in Train X. All power is supplied by a diesel generator in the locomotive which energizes a 480-volt, a-c train line running through each car.

When two cars are coupled or uncoupled, the train line connections are made or broken automatically. The train line consists of a busway of Alcoa Aluminum in a housing of Alcoa Aluminum. Each car unit has 42 ft of busway. It weighs 5.4 lbs per ft, against 8.2 lbs per ft for equivalent copper busway in steel housing. Total weight saving is over 1000 lbs.

The busway now handles 400 amps although rated capacity is 600. Installed above the headlining of the car, it is light, compact, corrosion resistant and trouble free.

Power for heating, lighting and air conditioning is carried from the electric locker by cable enclosed in Alcoa Aluminum Rigid Electrical Conduit which is one third the weight of steel—another weight-saving feature of Train X. Much of the conduit runs through the enclosed area above the car ceiling where maintenance would be difficult. Alcoa conduit needs no painting, is corrosion resistant. The junction boxes in Train X are also lightweight, long-lasting Alcoa Aluminum.

Busway, conduit and junction boxes of Alcoa Aluminum can save money and give you better electrical service in hundreds of different railway applications—rolling stock and trackside as well. Write for literature. ALUMINUM COMPANY OF AMERICA, 2180-J Alcoa Building, Pittsburgh 19, Pennsylvania.



*Your Guide to the Best
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THE ALCOA HOUR—Television's Finest Live Drama
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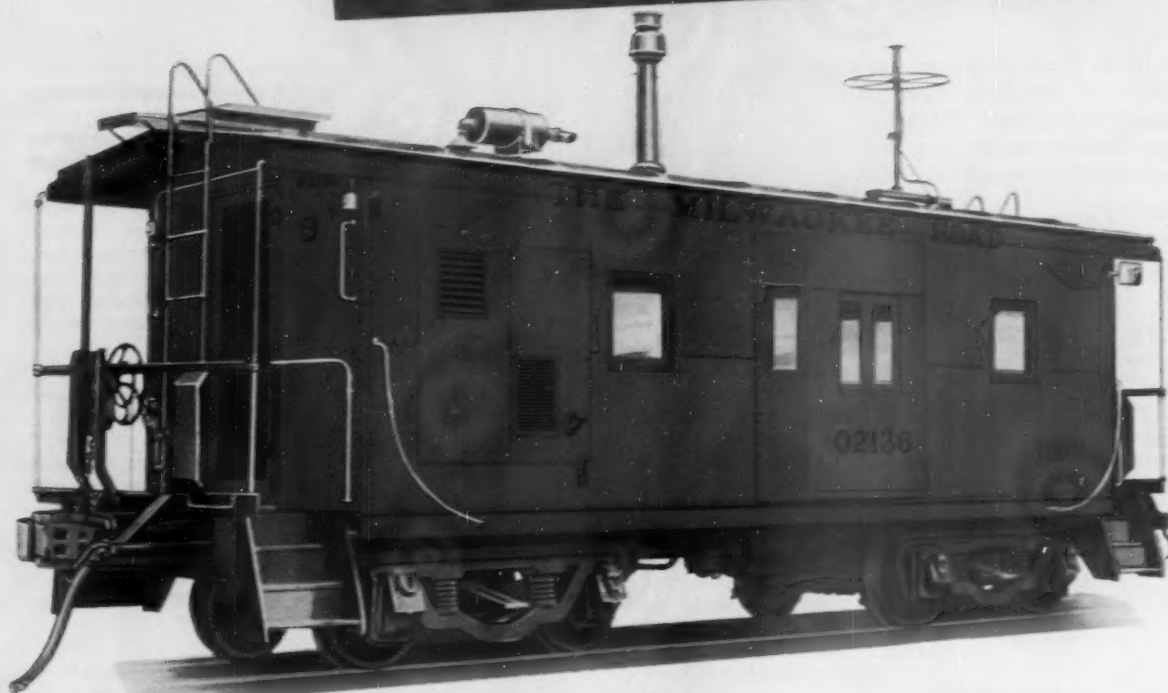
Lightweight, compact Train X busway was manufactured for Pullman-Standard by Roller-Smith Corporation. It consists of six Alcoa Aluminum Busbars in a housing of Alcoa Aluminum.



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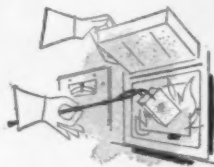


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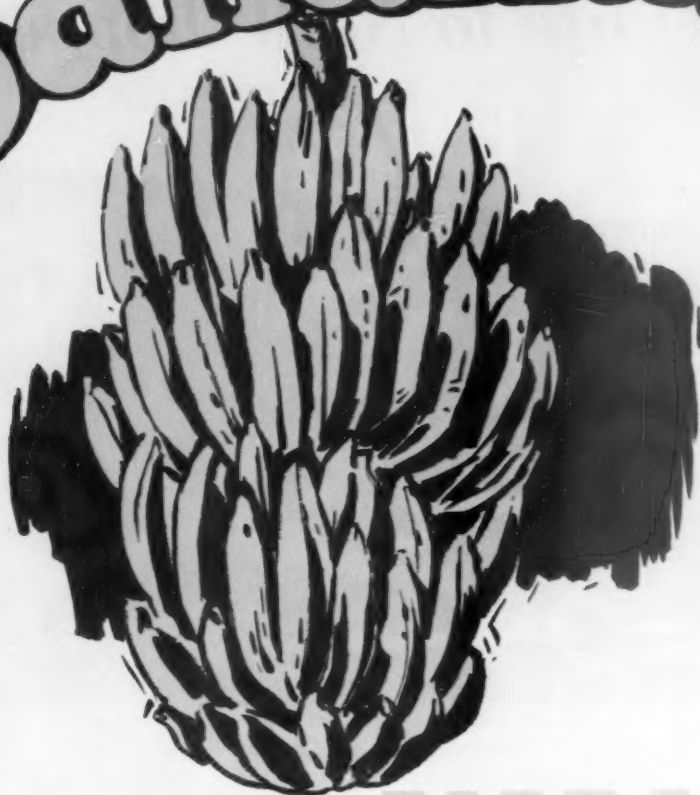
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Wabash eastern traffic manager reports:

**"Our customers can sell
perishable rollers faster
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W. McCrackan, Wabash eastern traffic manager

"Time is vital to brokers dealing in perishables. So when you can give them advance information before their cars even leave the yard, they get an important market break," says New York Manager W. McCrackan, Wabash Railroad Company. "We do that regularly, thanks to our teletypewriter circuit...a good *extra* solicitation point for the Wabash!"

He cites economy and accuracy as two more major contributions of Bell System teletypewriter service. "We can get—and give—information faster this way

than by any other means," he says. "The equipment is easy to operate, and we have Bell System service and experience to back us up." Teletypewriters interconnect 10 off-line offices of the Wabash with the company's St. Louis headquarters.

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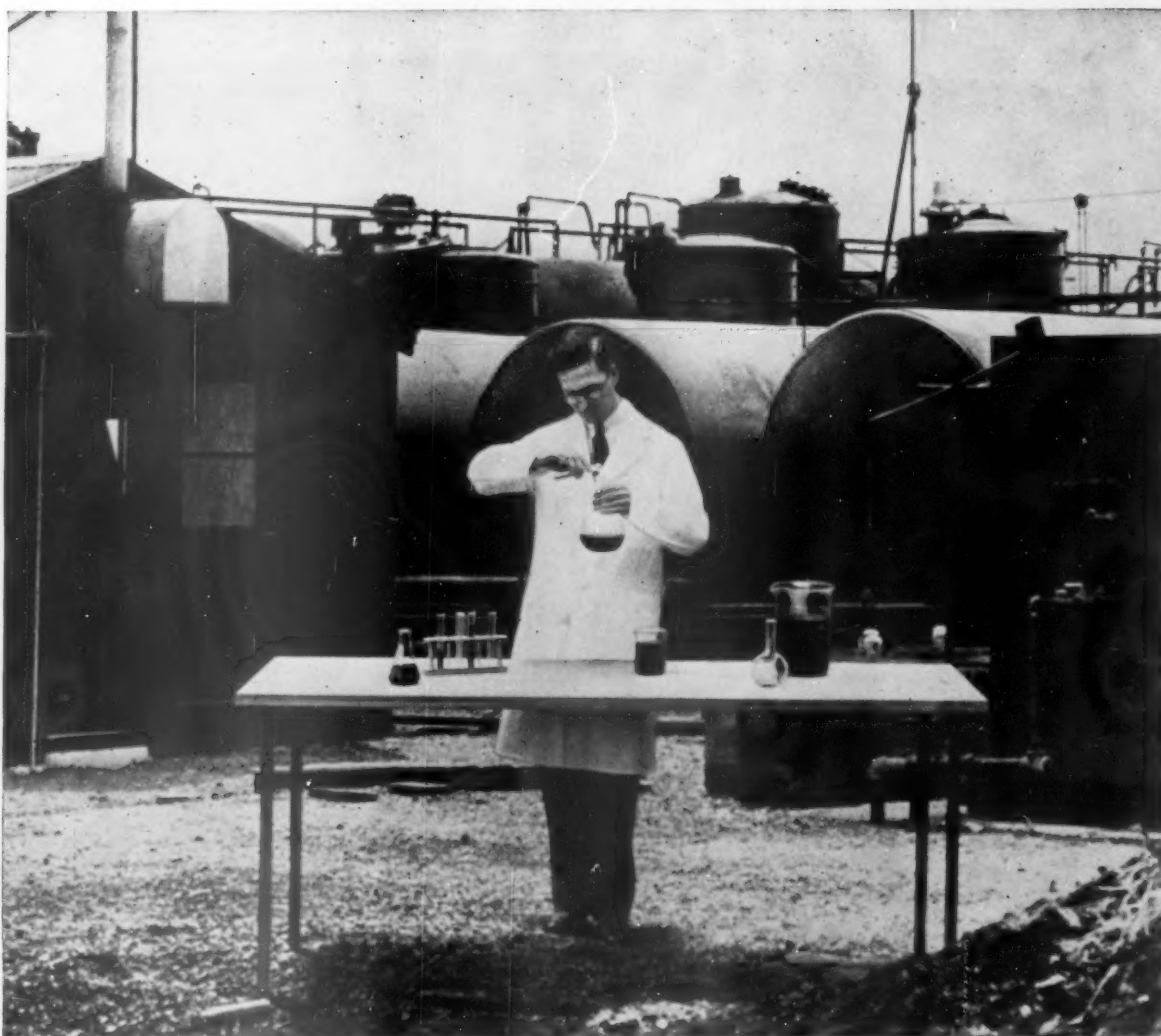
New York teletypewriter operator receives word that perishable roller is on the way. Office informs consignee immediately, saving vital time for the customer, making a firm friend for the Wabash. Bell System teletypewriter service links all Wabash off-line offices.



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Leadership Is Needed In Passenger Situation

The railroads could certainly use considerably more active leadership than has so far come forward—in dealing with the “passenger problem.”

Just what does leadership in such a situation consist of, and why is the need for it so acute right now? President D. J. Russell of the Southern Pacific has defined executive capacity as “ability to grasp specific situations quickly and relate them to broad, long-range considerations.” The man who thus deals with specific situations is a leader—provided he can attract a substantial following. A leader, by definition, is a man who has followers—hence the effective leader not only has to act with wisdom, but also has to convince other people that he is doing so.

The “passenger problem” has been a chronic worry for the railroads ever since the automobile manufacturers caught up with the backlog of demand created by post-war prosperity. The situation of the passenger business has become acute as well as chronic for several reasons:

1. Continued inflationary rises in labor costs with a decline in average employee output (1.9 million passenger-miles per passenger trainman in 1947 and 1.6 million in 1955). And this in a service already plagued by outmoded labor practices (e.g., a day's pay for 100 or 150 miles run—and requirement for more employees than actually needed).
2. Inflationary increases in costs of equipment—especially that for first-class service—exacerbated by “custom tailoring” instead of mass production.
3. Diversion of mail traffic to air lines and trucks—and unsatisfactory earnings from both mail and express.
4. Slowness of state commissions to permit abandonment of poorly patronized trains, and impossibility of making commuter traffic remunerative, without drastic innovations in treatment accorded to railroads by government.
5. Neglect by regulatory authorities and Congress in giving railroads greater freedom in making freight rates (as recommended by the Cabinet Committee Report on Transportation Policy)—which would augment railroad freight earnings and make the need for increased passenger earnings less acute.
6. Continued outpouring of taxpayers' money into improved facilities for the railroads' competitors—a ratio of improvement the railroads cannot possibly match, since their improvements must be financed by private investments which have to earn a return.

The foregoing list of handicaps is formidable—but not one of them is irremediable. Railroad passenger service is still—at least potentially—superior both economically and technologically to other forms of transportation for a large volume of traffic. All of the difficulties of the

passenger business lie in the realm of human behavior, and especially in government relations. Such difficulties are surmountable. With all the troubles that have befallen it, annual passenger train revenue still amounts to more than a billion dollars—a business well worth the effort to retain and convert into a producer of net income.

This paper has seen no evidence that the pertinent facts (e.g., potential traffic available at various rates and kinds of service) have as yet been collected and analyzed to the degree necessary to reach a firm conclusion on the potential market for railway passenger service. Neither do we believe that the rank and file of railroad employees have been sufficiently informed of their selfish interest in not “killing the goose” with excessively onerous working rules. Furthermore, *nobody* knows what relief might be forthcoming from some of the governmental handicaps which afflict the railroads—if the public were *really convinced* that the alternative is something quite unpleasant in the way of reduced railroad service and higher charges.

The forthcoming ICC hearings on the “passenger deficit” should provide an opportunity, not only for collecting and marshalling pertinent information, but also for publicizing this information. Publicity is needed because railroad patrons, railroad employees, and the general public have a large interest at stake in the competent solution of this problem—and also important contributions to make toward its solution.

Not Just an ICC Job

But the initiative in the fact-finding process should not be wholly or even largely left to the ICC—if for no other reason than the likelihood that the ICC may not be too inquisitive in some important areas.

The whole situation is one which calls for leadership of a high order. There are three ingredients to such leadership: (1) marshalling all the pertinent facts; (2) acting realistically, from the long-run viewpoint, in accordance with these facts; and (3) explaining the action so it will receive general support. Leadership doesn't come into existence unless it develops a following.

What about the group of railroads which is seeking to increase first-class fares 45 per cent? And what about the group which is equally insistent on no increase at all?

Neither of these groups has, as yet, assumed the responsibility of leadership—because neither group has disclosed an array of facts which would justify objective observers in supporting either position. The proponents of the sharp increase have, at least, done the service of drawing attention to the problem. They can make constructive use of this attention if they will disclose fully and repetitively the facts which, they believe, justify their proposal; or, perhaps better still, suggest alternative things government and the public could do which would reduce the need for action as drastic as they propose.



TEST LOCOMOTIVE, 3-compartment tank car for test fuels, and caboose containing instruments and office.

R-D Fuels Offer Real Savings

Output with residual-distillate at reduced flow rate comparable to that of regular fuels at higher flow rate

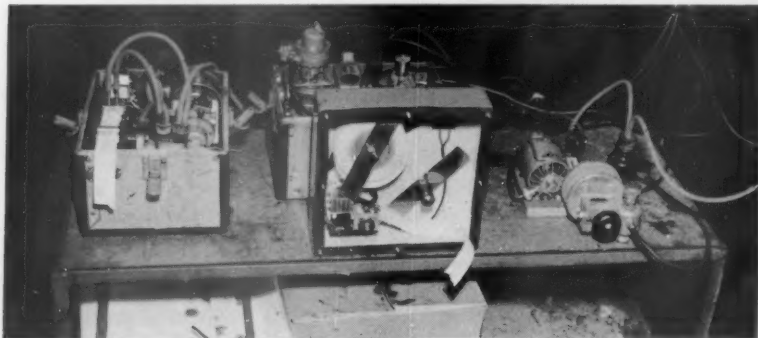
Stationary locomotive tests by the New York Central indicate that a residual-distillate type fuel of 300 SSU viscosity at 100 deg F gives satisfactory operation in an EMD 567-B engine when used in conjunction with a dual-fuel system. The dual-fuel system was found to

be necessary because operation with residual-distillate type fuel in the lower throttle positions was unsatisfactory. Regular fuel is, therefore, required in these throttle positions.

A field test is now in progress on a freight locomotive equipped with a dual-fuel system. At the completion

of this test it should be possible to evaluate such factors as maintenance and operating costs, fuel-handling problems, and lubricating oil degradation. The overall economy of using residual-distillate type fuel can then be ascertained.

Fuel accounts for over half the op-



SMOKE METERS (above) mounted alongside locomotive could take readings from both stacks.

ENGINE INSTRUMENTATION (right) included pressure pickup for oscillograph, thermocouple for measuring fuel temperature, gage measuring fuel pressure and Kiene cock for attaching firing pressure gage.



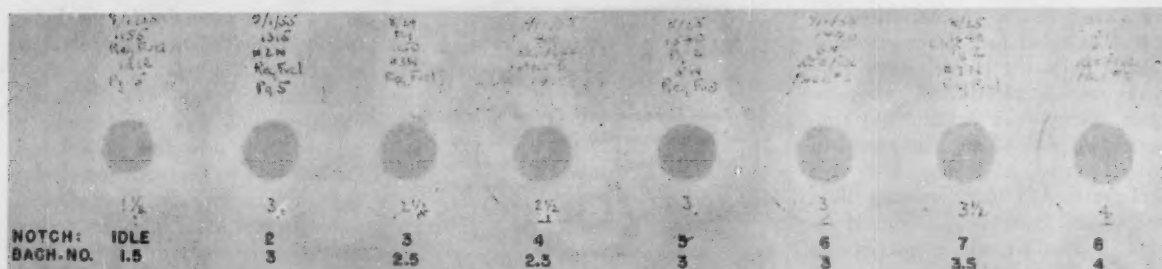
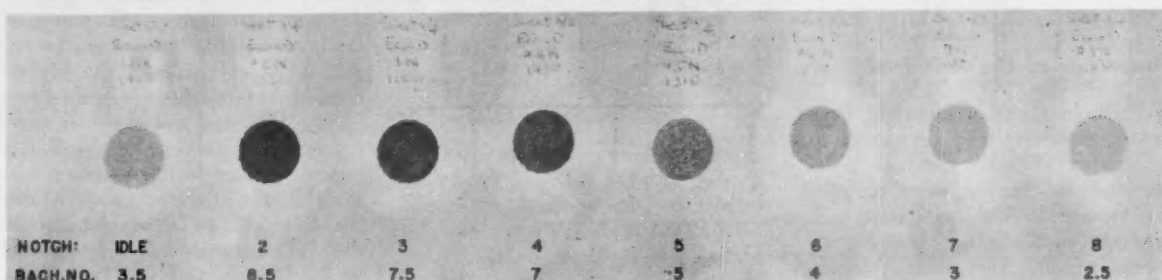


FIGURE 1. Bacharach smoke data from regular fuel (above) and R-D fuel (below).



erating expenses of a diesel road locomotive. Because of this, the railroad industry is keenly interested in lower cost fuels. It is essential, of course, that the performance of lower cost fuels should not result in prohibitive maintenance costs or other undesirable features of operation that may cancel out savings in direct fuel cost.

Practically all diesel locomotives today use an all-distillate type of fuel. Originally, a high grade distillate fuel was used, and it gave excellent results. In recent years, it was found economical to use lower cost, lower grades of distillate fuel. These still are well refined, good quality products of the type that are in high demand along the eastern seaboard for other commercial purposes. Therefore, the railroads are in direct competition for such products price-wise.

R-D Fuel May Reduce Costs

Because of this factor, the NYC made a survey of the availability of other types of low cost fuel in its operating territory. It was found that residual-distillate (hereafter referred to as R-D type fuel) blends offered the greatest potential saving. Considerable data on the use of this type of fuel in slow speed, high horsepower marine diesel engines were available. These data generally indicated that the use of R-D type

fuels resulted in higher maintenance cost. However, because of the considerable price differential as compared to the all-distillate fuels, the overall cost saving was substantial. Corresponding data in locomotive diesel engines were unavailable.

NYC and Esso Test R-D Fuels

A cooperative test program was set up between the NYC and Esso Research & Engineering Co. to determine whether true economy could be achieved with R-D type fuel in railroad diesels. The program was designed to determine whether the standard locomotive injection, pumping, and filtering equipment could handle these fuels satisfactorily and whether the fuels could be burned properly; to ascertain the effect on

engine deposits, wear, and maintenance; to find out if engine operating regimens had to be changed; and to determine whether current lubricating oils would be satisfactory in conjunction with these fuels. The test program was divided into three phases:

- Determine the performance of the R-D fuel in a standard EMD 567-B engine in an F-7 freight locomotive in a stationary locomotive test.

- If performance in the standard set up was unsatisfactory, determine if reasonable changes could be developed to handle the test fuel satisfactorily.

- If either of the above resulted successfully, evaluate the test fuel in prolonged service on the road to learn effects on deposits, wear, lubricating oil deterioration, and general performance.

This report deals primarily with phases 1 and 2 of this program.

The stationary testing was conducted at the NYC shops at Harmon, N.Y. Instrumentation included a Brown electronic temperature indicator, a Dumont double-beam oscillograph, indicating and recording voltmeters and ammeters, Kiene and Bacharach firing pressure gages, Bacharach spot and tape smoke meters, and Brodie volumetric fuel flow meters.

A total of 32 iron-constantan thermocouples and 15 pressure gages

TABLE 1. R-D FUEL—STANDARD FUEL SYSTEM

AFTER 12 HOURS' IDLING AT 275 RPM	
	R-D Regular
	Fuel Fuel
Fuel consumption, gph	15.9 4.4
Fuel temperature to engine, deg F	96 88
Cylinder exhaust gas temperature, deg F (average).....	244 187
Firing pressure, psi (average)	605 595
Smoke, Bacharach No.	10+* 1½

*Heavy layer of soot on tape

were used in the engine. Measurements included fuel temperatures at several pertinent points, water temperatures, lubricating-oil temperatures, all cylinder exhaust gas temperatures, and all exhaust manifold temperatures. Also measured were fuel pressure to and from each filter, and to and from the engine, and engine lubricating oil pressures. In addition, Kiene cocks were inserted in each cylinder for obtaining firing pressures.

Properties of the R-D Fuel

Preliminary laboratory and locomotive screening tests were made on a number of R-D type fuels. The fuel selected for the work reported here was a blend of high-quality residual and distillate fuels having a viscosity of 300 SSU at 100 deg F. This viscosity was selected because it was felt that increasing the already large percentage of residual in the fuel would raise the viscosity to the point where storage and dispensing costs would counterbalance the reduction in fuel cost.

It was also felt that, if a higher viscosity fuel were used, handling problems on the engine might be excessive. The test fuel was prepared by blending a high-quality residual and distillate fuel which laboratory work indicated had good stability, good compatibility, and good filterability. It was felt that fuel of this quality had the best chance of giving satisfactory operation; if true, later work would be continued to determine the minimum quality that could be used economically.

Engine Calibrated

Before work on the test fuel was started, calibrating runs were made on the engine idle and at all throttle positions, using the regular distillate fuel employed by the NYC. The standard 11/32-in. power piston setting was used. These tests included idling periods of 12 hours' duration. Work was then started on the test fuel without making any changes to the engine or supplying heat to the fuel.

Low Throttle Operation

Excessive Exhaust Smoke.—It was noted almost immediately after starting that smoking was much

**TABLE 2. POWER LOSSES—
No. 2 THROTTLE NOTCH**

R-D Fuel—Standard Fuel System with Heater
—Fuel Temperature 140 Deg F

Elapsed time, min	Brake horse- power (observed)
10	168
15	133
20	112
25	100
30	87

Accelerated to No. 8 notch, ran in No. 8 notch for 5 min, returned to No. 2 notch.
After 5 min 211

heavier with the R-D fuel than with regular fuel up to the fifth throttle notch. Typical data are recorded in Figs. 1 and 2. Based on these procedures it was concluded that a smoke rating above 5½ would be unacceptable. In addition to the dark smoke developed (Figs. 1 and 2) in the lower throttle positions, large volumes of white smoke issued from the exhaust stacks, the amount decreasing as the throttle was opened through the fourth notch. White smoke was eliminated in the fifth notch and above. In other words, combustion through the fourth notch was not satisfactory.

Erratic Operation.—With the regular distillate fuel measurements of power outputs, firing pressures, and exhaust gas temperatures consistently were reproduced and repeated from day to day. On the other hand, the R-D fuel showed considerable variations from day to day. This is illustrated in Fig. 3. Investigations revealed a heavy carbon build-up on the injector tips which was felt to be the cause of this condition.

Unsatisfactory Combustion.—During acceleration after an extended idling period, large waves of billowy white smoke tinged with yellow and accompanied by sparking were noted with the R-D fuel. A large volume of black carbon particles were also scattered around and on top of the locomotive during this acceleration. Prior to the acceleration, liquid fuel was found to be leaking from the exhaust manifold. Also, it was found that at the end of the idling period actual fuel consumption had increased from 4.4 to 15.9 gal per hr. This extra fuel flow was supplied by the governor

in an effort to maintain the idling speed. Some of the data obtained are given in Table 1.

Operation in the No. 2 throttle notch position was found to be as unsatisfactory as at idle, even though the test fuel was heated in an effort to improve operation. Even after installing a new set of injectors, serious power losses occurred in a very short time in this throttle position. This is illustrated in Table 2 and Fig. 4.

These data illustrate that power at the lower throttle notches can be regained by operating in the higher notches, but this is only temporary. In the following test the fuel temperature was raised to 220 deg F, the engine operated in the seventh notch for 1¾ hr, and then returned to the No. 2 notch. As shown in Fig. 4, the brake horsepower had dropped to 51 in 70 min and to 17 after 90 min. At this point smoking was very heavy and odorous. The observations shown in Table 3 were made during a slow acceleration, 1 to 2 min per notch, at this time.

Injectors Fouled.—During the preceding tests, injectors were frequently removed for examination and on occasion replaced with new ones. In all cases the used injectors had fouled and carbonized tips. The interiors of the injectors, however, were in excellent condition. Test stand checks of the injectors after removing the carbon from the tips showed them to be satisfactory in all respects.

It was felt that this injector tip fouling was one of the major factors in the poor performance of the R-D type fuel. Other factors involved would be the poorer burning characteristics of the heavy ends of the R-D fuel at the lower temperatures encountered at part throttle as well as actual combustion chamber design. A considerable amount of research by engine builders is now in progress on injector design in an attempt to overcome the fouling obtained with R-D type fuel. This is a project of considerable magnitude and it is not expected that a complete solution will be available in the immediate future.

Difficult Starting.—It was not possible to start the engine on R-D fuel at a "dead cold" temperature of 55 deg F. An immediate start was obtained with regular fuel. After the engine was warmed up on regular fuel, it could be operated on the test

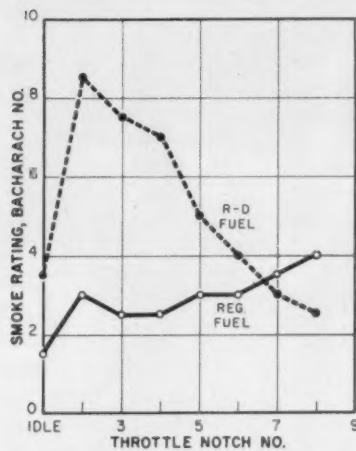


FIGURE 2. Smoke ratings, regular and R-D fuel.

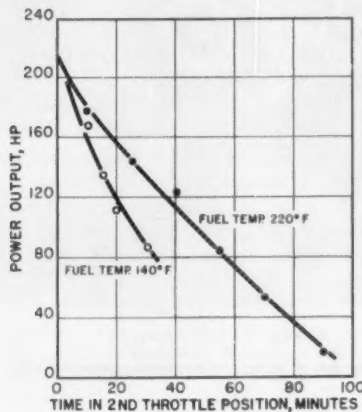


FIGURE 4. Effect of prolonged low-speed operation on power output with number 2 throttle position, R-D fuel.

fuel. Data obtained on this point (shown in Table 4) indicate that fuel flow to the engine was very low and pressure drops through the fuel system were very high.

Further test data indicated that the minimum starting temperature for the test fuel was in the range of 70 to 75 deg F. Even though the engine could be started at this temperature, fuel flow was insufficient to allow operation beyond No. 2 notch (as a result of pressure drops through the filters and fuel lines).

Conclusions.—Based on the results obtained up to this point with a standard EMD 567-B engine set-up using R-D fuel, it was concluded that:

- Idling and low throttle notch operation are unsatisfactory.
- Engine starting and operation, even at moderate temperatures, are unsatisfactory.
- Operation on R-D fuel above

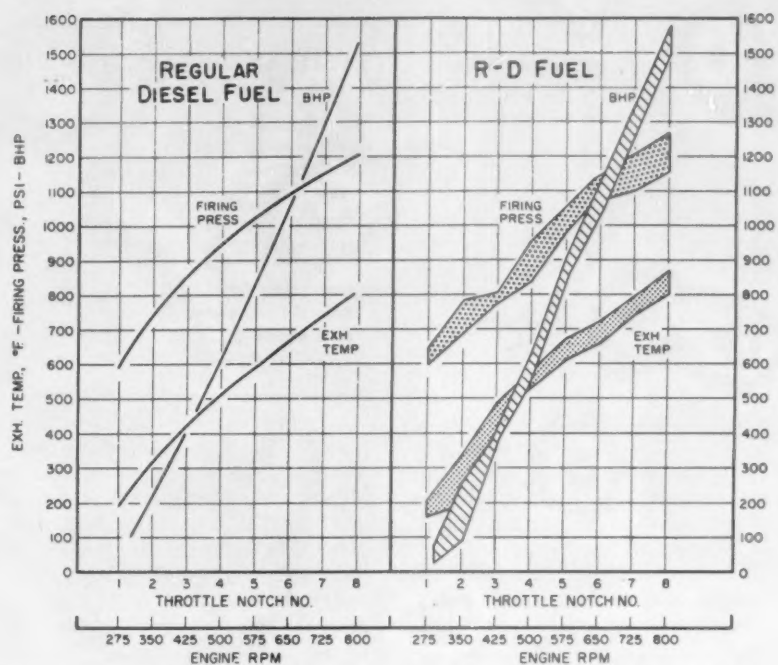


FIGURE 3. Power output, firing pressure, exhaust temperature were consistent with regular fuel but variable with R-D fuel.

the fourth notch may be satisfactory.

Dual-Fuel System Necessary

After studying the above data, it was felt that the R-D fuel of the type tested might be successfully utilized with a dual-fuel system conforming to the following requirements:

- Retain essentially the standard locomotive fuel system for operation with distillate fuel through the fourth throttle notch.

- Install a second fuel system using two fuel pumps. One pump would circulate the R-D fuel from the locomotive tank through a heater and then back to the tank. It was felt that a minimum tank fuel temperature of 100 deg F was necessary. The second fuel pump would take the heated tank fuel, pass it through the desired filters and heaters, and thence, at the fifth notch and above, supply it to the engine with a return to the fuel tank. Minimum temperature of the fuel to the engine would be 140 deg F.

- Take all precautions to prevent contamination of regular fuel with the R-D fuel. This indicated a closed system for the regular fuel, with no return to the regular fuel tank.

- Take all precautions to prevent low throttle notch operation on the R-D fuel, such as might occur on a quick deceleration from No. 8 notch to idle.

- Design an automatic control system which would do all the above without attention from the train crew.

It was realized that use of a dual-fuel system would reduce the amount of the R-D fuel used and thus reduce fuel cost savings. In NYC freight operations, however, some 60 to 80%

TABLE 3. EXHAUST AFTER ACCELERATION

R-D Fuel—Standard Fuel System with Heater— Fuel Temperature 220 deg F	
Notch	Observation
2	Very heavy billowy dark smoke, odorous, black carbon particles
3	Smoke same, exhaust manifold explosions accompanied by sheets of flame from stacks, "raining" carbon particles
4	Slight improvement in smoke, no explosions or fire
5	Same as 4
6	Starting to clear
7	Improving
8	Nearly normal

of the fuel gallonage is used in the fifth notch and above. This saving appeared attractive enough to investigate the dual-fuel system further.

A manually controlled dual fuel system was, therefore, set up and tested. Satisfactory results were obtained and it appeared entirely practical for railroad use. While nozzle tips using the dual-fuel system were not as clean as when using regular fuel, the extent of fouling did not appear to affect the engine.

At this time it was learned that a commercially manufactured dual-fuel system was available from the Nemec Corporation, which would meet most of the requirements indicated by the test work. The NYC purchased one of the early models of the Nemec equipment and installed it in the test locomotive. While a number of changes were made in this equipment to meet the requirements of the NYC operation, the basic design was found to be sound.

Some 6,000 gal of the R-D fuel was consumed in the stationary tests using the dual-fuel system. Consistent reproduction of such data as horse-

TABLE 4. OPERATION WITH R-D FUEL AT 55 DEG F (IDLE)

Fuel flow to engine, gph	16.5*
Suction pressure, in.Hg:	
From fuel tank	17.5
From suction filter	19.5
Pressure, psi:	
From fuel pump	66 (relief valve open)
From Ful-Flo filter	30
From sintered bronze filter..	9
From engine	1

*Regular fuel, 225 gph

power, exhaust gas temperature and firing pressure was obtained. In addition, added power was obtained with the R-D fuel, due to its higher volumetric heating value. Because of this additional power output, the power-piston setting was changed from the standard 11/32-in. position to the 3/8-in. position. This, of course, resulted in a lower fuel flow to the engine. With the reduced fuel flow at the 3/8-in. setting, the R-D fuel gave essentially the same power output as regular fuel at the higher

flow of the 11/32-in. setting.

Because of the encouraging results obtained in the stationary tests with the dual-fuel system, the test engine was equipped with measured power assemblies and placed in regular freight service, using the residual-distillate fuel. This unit was coupled to an A unit, using regular distillate fuel, which was also equipped with measured power assemblies.

To date, limited miles have been accumulated on the locomotive without any trouble from the R-D fuel or the dual-fuel system. Regular lubricating oil is being used and periodic oil samples are being obtained for analyses both from the test and control engines to note if there are any differences. After at least six months' operation, both engines will be dismantled and checked for wear.

NYC and Esso Research people believe that, at the completion of the tests, such factors as the maintenance and operating and installation costs can be evaluated realistically to determine the overall economy of using R-D type fuel.

Railroading

After Hours

Mexico's Progress

A couple of my colleagues and I had lunch the other day with Valentin Moscosso, who is general agent up our way for the National Railways of Mexico. He brought us up-to-date on the great industrial growth taking place in his country—with consequent heavy demands on railway capacity. We also cleared up the question (to which we couldn't find the answer in the Official Guide) as to what the northern terminus is for the Swiss-built equipment which the NdeM uses on the "Aztec Eagle."

Having made the trip from Laredo to Mexico City once by train, I know they've got one of the most interesting train rides there to be found anywhere on the North American continent. If more tourists knew of its attractions, there'd be fewer of them going to Mexico by air. As it is now, many of them fly into Mexico City and fly back again, thinking they've seen the country—which is like a European visiting New York and going home, believing he's seen the U.S.A.

by
James G.
Lyne



Editor,
Railway
Age

The Mexican railroaders, incidentally, are justly proud of their new "automatic" Valley of Mexico yard, recently placed in service and probably the most advanced facility of this kind to be found anywhere in Latin America.

More on "Crowson Question"

The mail keeps coming in—in response to the question the IC's George M. Crowson raised about what the railroads are going to do for desirable public contacts, to replace those they've lost by reduced passenger volume.

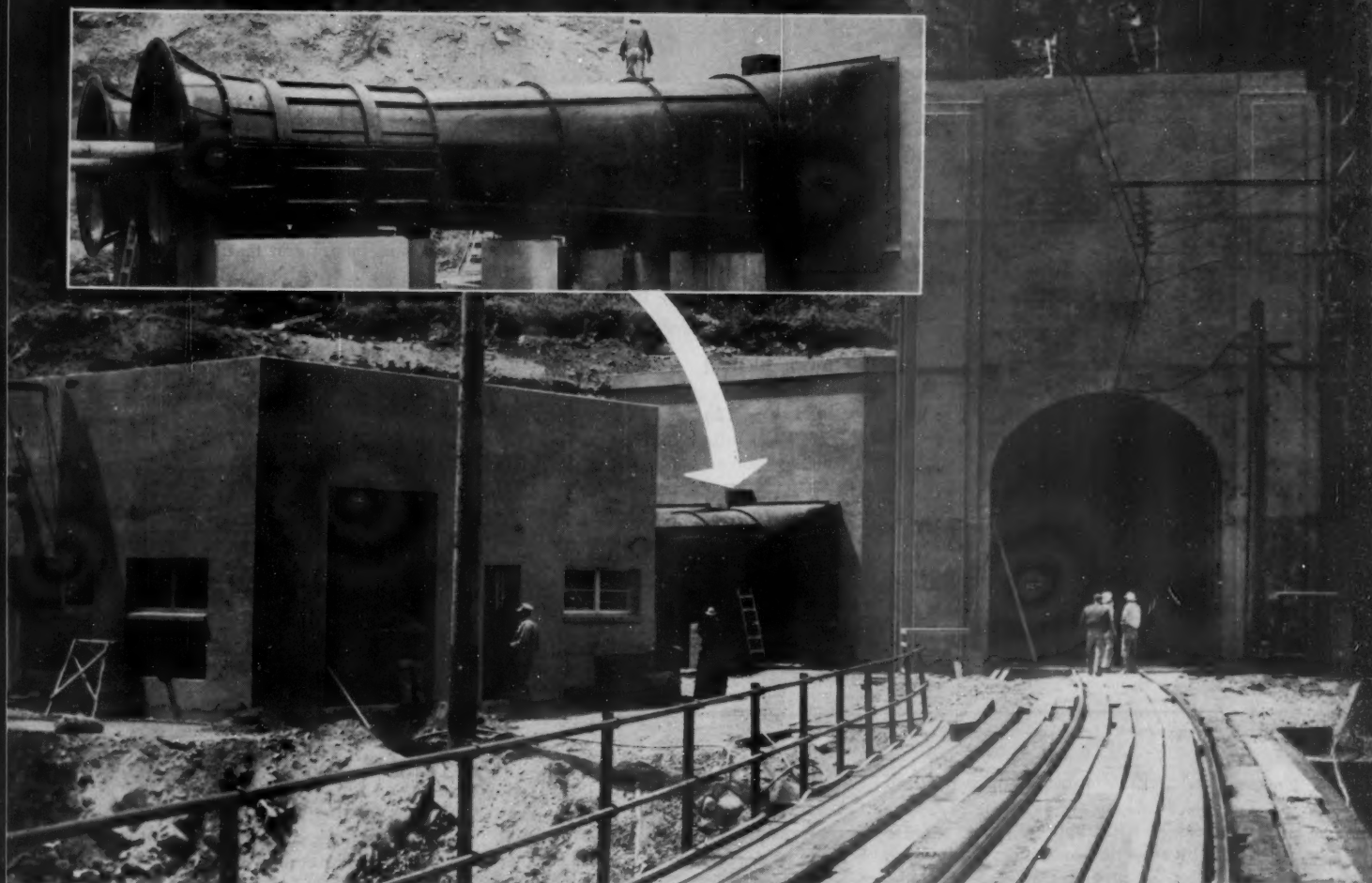
One correspondent, a lady who does a lot of traveling herself, and

also arranges group movements, cites some pretty sad experiences—both on her part and by her clients.

One thing that particularly annoys this correspondent is the kind of replies she gets when she reports substandard service. Such replies she characterizes as "a polite, disinterested apology"—not conveying the impression that the recipient is deeply impressed or that he really intends to correct the condition reported.

Most of the complaints had to do with red cap service—many red caps seeming to have a prejudice against interline checking of baggage. But dining car waiters inadequate to the job, Pullman porters a little too eager to get in their rest, and inaccurate information on train delays also were on the list.

The railroads need to make more impacts on the public as G. M. C. contends. Also, and just as important, they need to make sure that the impacts they do make are favorable.



AIR BLASTS produced by fans in steel tubes (insert) are channeled into tunnel through concrete monolith (arrow). Shafts connect fan blades with 800-hp motors in engine-

house. Project required construction of new east portal and buildings at left for housing control equipment, motors and standby power unit.

Big Tunnel Gets Cooling System

Electrification of Cascade bore ends with installation of huge fans that permit operation up-grade of heavy diesel-powered freight trains

On August 1 the Great Northern terminated nearly half a century of electrified train operation in the Cascade mountains with the completion of a \$650,000 ventilation project for its 7.79-mile Cascade tunnel, longest rail bore in the Western Hemisphere.

Activation of the engine cooling system, permitting the operation of heavy diesel-powered freight trains through the tunnel, ended the era of electrification.

The trolley and high-tension transmission grid for the 74-mile electrified zone between Wenatchee,

Wash., and Skykomish will be dismantled soon. The railway's fleet of 15 electric locomotives, comprising 20 units, already is up for sale.

Basic units in the ventilation project are two 6-ft fans installed at the east portal of the tunnel, at Berne. Powered by 800-hp electric motors and turning at 1,150 rpm, the fans force fresh outside air through the bore.

A building has been erected near the east portal to house the fan motors, electric switch gear and control mechanism, as well as a 1,200-

hp stationary diesel for standby power.

The east portal has been reconstructed to accommodate a steel drop door, actuated by the operator at the west portal, which prevents the air blast from "short circuiting," or circulating out the near portal and back to the fans.

What Cooling System Does

From west to east the track within the tunnel, which is laid with continuous rail, is on a 1.57-per cent

LATEST OF MANY IMPROVEMENTS

The Cascade Tunnel ventilation project is the latest of numerous improvements that have been made over the years in the Great Northern's crossing of the Cascade mountains.

When the main line from St. Paul to Seattle was first laid across the Cascades in 1893, the major climb to Stevens Pass was accomplished through a series of switchbacks.

Construction of the first Cascade tunnel in 1900 eliminated the switchbacks. That 2.63-mile bore also shortened the distance 9 miles, reduced the maximum grade from 4 per cent to 2.2 per cent, and eliminated 2,322 deg of curvature.

The first step toward electrification in the Cascades was taken in 1909 when the tunnel was electrified to eliminate serious smoke and gas conditions which had developed with increased traffic, and to improve operating conditions for heavy freights through the tunnel.

This first electrified operation was a three-phase, 6,600-volt system with two trolley wires, the rails being used as a third conductor. Locomotives were equipped with three-phase induction motors and could be operated at two speeds—approximately 15 mph for passenger trains and light freights, and 7½ mph for heavy freight trains.

Simultaneously with the opening of the new Cascade Tunnel in 1929, electrified operation was extended to Skykomish on the west and Wenatchee on the east. The tunnel, plus a major relocation of the line on the east slope, reduced curvature by 3,674 deg, lowered the summit elevation 502 ft, eliminated 19,332 ft of previous tunnels and 39,870 ft of snow sheds, and shortened the line 9 miles. Cost of the new, single-phase electrified operation, including 14 electric locomotive units, was approximately \$6,000,000.

In addition to subsequent line improvements in the Cascades, the big tunnel was completely re-layed with continuous pressure-welded rail in 1949.

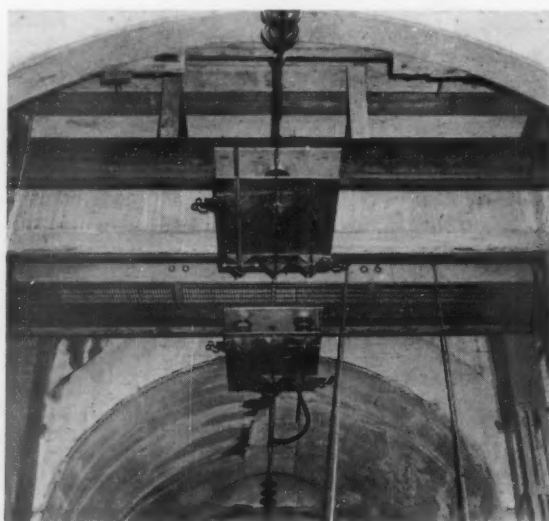
grade. Prior to ventilating the tunnel, diesel operation of full-tonnage trains was not practicable because of overheating of engines, although some passenger trains have been diesel-powered through the tunnel for several years.

Now, when a heavy-tonnage

freight enters the west portal at Scenic, the operator there engages a master control, closing the east portal door and starting one of the fans, which forces approximately 220,000 cu ft of air per minute against the oncoming train. The introduction of a flow of outside air minimizes

the piston effect of a train passing through the tunnel. Lighter trains will not require assistance from the cooling system, and all trains west-bound downgrade are able to operate efficiently without aid of the fans.

After a train has passed through the tunnel in either direction both



CONSTRUCTION of new east portal for housing the steel door required frequent interruption of power in 11,000-volt trolley wire. This was done by installation of special terminal plates fitted with hinged conductors that could be swung clear and then reconnected.

STEEL DOOR (left) at east portal has counterweights (right background) that open it automatically if power is interrupted or when automatic controls cut the circuit of electromagnetic blocks that keep it closed.

fans can be operated to change the air completely within the bore. Together they force approximately 525,000 cu ft of air per minute through the tunnel.

The automatic features which come into play after the operator at the west portal has engaged the master control include switch gear which opens the doors and turns off the fans when a train on the upgrade approaches within 3,250 ft of the closed portal. The fans will not operate without the door being closed. A stop signal within stopping distance of the door is provided in the event the door should fail to open despite its "fail-safe" design. After a train has cleared the tunnel the door is automatically closed and both fans are started for the air-changing cycle.

Design of the cooling system was based on studies made for the railway by International Engineering Company of San Francisco. The engineering company served as consultants during installation of the system by the Morrison-Knudsen Company.

Trolley Wire a Problem

Constructing the new portal and mechanism for housing the door required extremely close teamwork between railway and contractor. The top of the tunnel was within 18 in. of the 11,000-volt trolley wire, requiring frequent interruptions of power. For this purpose, trolley terminals were installed at each side of the door housing. Whenever power had to be cut, two hinged con-

ductors were swung clear of each terminal plate. They were reconnected when electric engines could again be allowed to pass.

The railroad expects that 100-per cent dieselization of the electrified zone will produce substantial operating economies. The necessity of changing locomotives at Wenatchee and Skykomish is eliminated, as well as the maintenance of electric locomotives and related facilities. Another operating improvement is seen in winter snow removal; equipment with heavy outrigger blades will not have to be retracted to pass the poles, needed to support the catenary system in electrified territory.

With the changeover from electric to diesel operation in the Cascades, the Great Northern is now completely dieselized west of Minot, N. D.

Railway Officers

CANADIAN PACIFIC.—**J. A. MacDonell**, district freight agent, Edmonton, Alta., appointed division freight agent, Manitoba district at Winnipeg, succeeding the late **W. H. White**. **W. H. Johnson**, city freight agent, Calgary, Alta., named district freight agent, Moose Jaw, Sask., succeeding **W. J. Grant**, transferred to Fort William, Ont. Mr. Grant replaces **W. E. Hogg**, transferred to Edmonton to succeed Mr. MacDonell.

Hugh Shoobridge, assistant to vice-president, personnel, at Montreal, Que., appointed personnel manager there. **Keith Campbell**, assistant to operating vice-president, Eastern region, Toronto, Ont., appointed assistant to manager, labor relations, Montreal.

T. R. Weise appointed supervisor of transportation and fuel agent, Saskatchewan district at Moose Jaw.

CHICAGO & NORTH WESTERN.—**Arthur W. Blake**, Sioux Falls, **C. W. Hancock**, Winston-Salem, and **Roy F. Wendt**, St. Paul, all general agents, retired July 31. **William A. Weiss**, auditor freight accounts, Chicago, appointed to newly created position of auditor of revenues. **John T. Arnold**, assistant general auditor, named consulting auditor of revenues, and his former position abolished. **Charles H. O'Hearn**, general auditor, named assistant comptroller-systems and procedures; **Bernard Firestone**, assistant general auditor, appointed assistant comptroller-general; **Frank K. Hauff**, assistant auditor freight accounts, named assistant comptroller-revenues and disbursements. Former positions of

Messrs. O'Hearn and Firestone abolished. **William C. Wallace**, assistant to general auditor, promoted to auditor freight accounts, Chicago. **Lloyd A. Ericson** appointed assistant auditor freight accounts, and **Raymond A. Gartner** named car accountant, both at Chicago.

M. S. Reid named assistant engineer-maintenance, Chicago, to succeed **W. H. Huffman**, assigned to special duties. **W. F. Wilbur**, **L. J. Deno**, and **R. D. Nelson** appointed division engineers at Chicago, Green Bay and Sioux City, respectively.

L. A. Thomas, division freight and passenger agent, Sioux City, retired July 31. **B. C. Brandenburg** named agricultural agent, St. Paul.

M. Boyd Hutchins, manager-research and statistics, Chicago, retired July 31.

H. F. Ryder appointed manager, research and statistics, Chicago, succeeding **M. Boyd Hutchins**, retired July 31. **P. J. Sullivan, Jr.**, named freight traffic service manager, Chicago. **Wayne A. Andersen** and **C. P. Johnson** appointed division freight and passenger agents, Sioux City and Cedar Rapids, Iowa, respectively. The following general agents named: **Stanley B. Boardman**, Madison, Wis.; **Cyril O. Dienberg**, Rockford, Ill.; **James B. Goinz**, New Orleans, La.; **Donald L. Gunvalson**, Sioux Falls, S. D.; **William K. Plummer**, Winston-Salem, N. C.; and **Omer T. Tormoen**, Salt Lake City, Utah.

Milton H. Crandall, master mechanic at Huron, S. D., appointed diesel supervisor at Chicago.

Raymond J. Degnan appointed general agent, foreign freight department, Chicago.

The following appointments announced: **J. R. Brennan**, passenger traffic manager, Chicago; **R. J.**

Steiner, assistant traffic manager, St. Paul; **I. S. Olsen**, freight traffic manager C&NW—on line, Chicago; and **W. E. Braun**, traffic manager—Southern Region, Chicago.

NEW YORK CENTRAL.—**John S. Gallagher, Jr.**, who has directed this road's passenger research program for two years, appointed director of passenger research, forecasting and controls. **Raymond A. Horley**, manager, Terminal Travel Service Center at Cleveland, named to the newly created position of director of reservation sales for the system at New York.

Charles G. Warnick, assistant city editor of the Cincinnati Enquirer, named district public relations director, NYC, Cleveland, Ohio. **John E. Salter**, director of special events, New York, appointed district public relations director, Eastern district, at Syracuse, N. Y. **Harry B. Spurrier**, public relations representative, Chicago, named district public relations director, Southern district, at Indianapolis.

M. P. Richards appointed assistant manager of stores, New York. **Joseph D. Gunther**, assistant coal sales manager, Detroit, appointed coal sales manager, New York, to handle matters dealing with sale, transportation, rates and service on coal and coke in Eastern district. **Martin J. Murphy**, assistant coal sales manager, New York, retired August 31.

NORTHERN PACIFIC.—**D. H. Shoemaker**, assistant chief engineer, appointed special assistant-executive department, with duties in connection with the joint exploratory unification study being carried out by the NP, Great Northern, Burlington, and the (Continued on page 46)

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1956

Name of Road	Average mileage operated during period	Operating Revenues (in millions)		Maint. Way and Structures Deprec.		Operating Expenses		Total	Traffic	Transp.	Total	Operating ratio 1956	Net from railway operation accruals 1956	Net railway operating income 1955
		1956	1955	1956	1955	Total	Total	1956						
Freight		1956	1955	1956	1955	1956	1955	1956	1956	1956	1956	1956	1956	1956
Akron, Canton & Youngstown.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Atchison, Topeka & Santa Fe.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Atlanta & St. Andrews Bay.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Atlanta & West Point.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Western of Alabama.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Atlantic Coast Line.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Charleston & Western Carolina.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Baltimore & Ohio.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Staten Island Rapid Transit.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Bangor & Aroostook.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Bessemer & Lake Erie.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Boston & Maine.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Canadian Pacific Lines in Maine.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Carolina & Northwestern.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Central of Georgia.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Central of New Jersey.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Central Vermont.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chesapeake & Ohio.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chicago & Eastern Illinois.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chicago & Illinois Midland.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chicago & North Western.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chicago, Burlington & Quincy.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chicago Great Western.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chicago, Mil., St. Paul & Pacific.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chicago, Rock Island & Pacific.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Chic., St. Paul, Minn. & Omaha.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Clinchfield Railroad.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Colorado & Southern.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
Ft. Worth & Denver.....	June	171	177	2,022	1,443	279	279	46	7	61	64	13	17	143
June 6 mos.		171	177	2,022	1,443	279	279	46	7	61	64	13	17	143

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF JUNE AND SIX MONTHS OF CALENDAR YEAR 1956

Name of Road	Average miles operated during period	Operating Revenues			Maint. Way and Structures			Operating Expenses			Operating ratio 1956-1955	Net from railway operating 1956	Railway tax accruals 1956	Net railway income 1956
		Freight	Pass.	Total (inc. misc.)	Total 1955	Total Retire- and Deprec.	Total 1955	Total Retire- and Deprec.	Total 1955	Total 1955				
Colorado & Wyoming.....	June 40	229	348	332	25	81	32	21	11	117	54.6	67.5	88	64
Delaware & Hudson.....	6 mos. 128	1,277	2,023	1,768	229	15	198	195	66	1,211	59.8	452	335	267
Delaware, Lackawanna & Western.....	June 792	4,488	4,711	4,502	545	83	680	707	175	3,057	66.0	71.7	948	948
Delaware, Lackawanna & Western.....	6 mos. 792	26,986	885	28,331	3,130	313	3,443	4,158	1,043	18,320	66.1	71.7	4,761	4,332
Delaware, Lackawanna & Western.....	June 962	6,314	820	6,124	1,214	113	1,327	1,440	317	3,644	76.0	81.7	1,138	1,138
Delaware, Lackawanna & Western.....	6 mos. 962	35,971	4,782	40,653	4,953	821	5,774	6,595	1,823	36,381	81.3	83.7	4,739	3,701
Denver & Rio Grande Western.....	June 2,155	6,146	305	6,451	1,020	906	81	967	285	2,044	65.8	71.9	1,045	1,072
Denver & Rio Grande Western.....	6 mos. 2,155	35,873	1,350	37,223	36,609	4,640	4,232	5,806	1,673	25,094	65.3	64.1	7,062	6,839
Detroit & Toledo Shore Line.....	June 50	545	508	655	84	46	69	65	21	206	57.5	204	68	76
Detroit & Toledo Shore Line.....	6 mos. 50	4,078	4,392	4,322	499	484	22	418	397	1,340	56.3	1,919	686	495
Detroit, Toledo & Ironton.....	June 464	1,557	1,557	1,557	1,557	1,557	1,557	1,557	1,557	1,557	69.2	3,435	1,384	1,809
Duluth, Missabe & Iron Range.....	June 569	6,461	1	7,507	7,347	467	443	614	571	1,940	39.3	4,312	1,945	2,344
Duluth, Missabe & Iron Range.....	6 mos. 569	17,882	1	20,828	18,179	2,717	2,217	3,240	784	15,163	66.9	5,665	3,132	2,481
Duluth, South Shore & Atlantic.....	June 544	672	3	720	674	143	157	8	142	143	81.8	147	38	95
Duluth, South Shore & Atlantic.....	6 mos. 544	3,832	22	4,030	3,707	769	787	804	144	1,333	80.3	796	207	485
Duluth, Winnipeg & Pacific.....	June 175	538	1	546	425	447	371	26	463	411	70.2	129	85	56
Duluth, Winnipeg & Pacific.....	6 mos. 175	3,561	4	3,600	2,875	447	371	26	463	411	70.2	129	85	56
Elgin, Joliet & Eastern.....	June 236	3,873	...	4,703	4,434	299	261	976	546	1,660	67.5	1,530	679	401
Elgin, Joliet & Eastern.....	6 mos. 236	23,594	...	28,557	24,525	1,647	1,388	177	5,228	10,335	65.6	9,822	4,381	2,575
Exte.....	June 2,225	13,134	661	14,958	13,818	2,122	2,193	2,139	581	11,700	78.2	3,258	1,259	1,219
Exte.....	6 mos. 2,225	77,687	3,481	81,383	77,647	10,063	9,311	13,222	13,049	67,999	77.6	19,584	7,751	7,547
Florida East Coast.....	June 571	1,891	348	2,239	2,200	277	268	41	420	391	83.9	339	110	167
Florida East Coast.....	6 mos. 571	13,641	3,413	20,887	19,712	2,774	2,996	3,663	593	15,188	73.3	5,531	1,340	2,647
Georgia Railroad.....	June 321	618	18	719	697	124	115	9	148	332	91.5	58	40	65
Georgia Railroad.....	6 mos. 321	3,862	97	4,997	3,070	783	598	66	845	644	97.7	551	246	521
Georgia & Florida.....	June 332	270	...	278	297	91	80	3	35	30	74.7	28	17	41
Georgia & Florida.....	6 mos. 332	1,787	...	1,821	1,616	557	444	21	230	182	89.9	283	101	50
Grand Trunk Western.....	June 951	28,450	1,328	32,150	30,843	3,974	3,387	330	5,123	13,488	85.1	74.2	2,233	3,413
Great Northern.....	June 8,286	22,868	1,273	25,998	25,353	5,901	5,314	3,603	3,116	7,649	71.7	7,366	3,721	2,999
Great Northern.....	6 mos. 8,286	116,387	4,841	129,743	119,671	25,435	23,818	19,986	4,510	102,696	79.2	27,047	14,230	10,564
Green Bay & Western.....	June 224	337	...	347	374	102	78	4	38	39	69.6	50	22	32
Green Bay & Western.....	6 mos. 224	2,182	...	2,231	2,213	506	361	25	270	675	76.5	525	242	118
Gulf, Mobile & Ohio.....	June 2,757	5,558	358	6,378	6,571	1,028	998	71	1,405	2,158	75.9	1,140	438	639
Gulf, Mobile & Ohio.....	6 mos. 2,757	36,573	1,918	41,281	41,331	6,174	6,279	446	8,018	13,163	72.2	9,958	4,222	3,467
Illinois Central.....	June 6,532	19,047	1,894	23,338	23,632	3,850	3,961	514	4,086	14,622	77.0	5,362	2,949	1,940
Illinois Central.....	6 mos. 6,532	121,104	10,629	146,062	142,120	22,594	20,775	25,995	24,995	110,366	75.6	35,694	18,892	13,243
Illinois Terminal.....	June 355	869	30	1,026	1,015	161	147	23	171	162	80.5	189	9	137
Illinois Terminal.....	6 mos. 355	5,430	191	6,390	5,649	823	779	132	1,137	944	78.3	1,389	409	637
Kansas City Southern.....	June 891	3,483	121	3,963	3,753	431	360	46	516	493	57.1	1,615	756	648
Kansas City Southern.....	6 mos. 891	21,118	588	23,752	22,076	2,261	2,120	271	2,900	13,560	57.1	10,172	4,701	3,979
Kansas, Oklahoma & Gulf.....	June 327	398	...	399	421	96	59	7	31	102	71.9	112	51	32
Kansas, Oklahoma & Gulf.....	6 mos. 327	2,728	...	2,738	2,393	473	347	59	186	178	60.1	1,115	421	477
Lake Superior & Ishpeming.....	June 149	588	...	752	823	71	62	7	57	59	37.2	471	206	291
Lake Superior & Ishpeming.....	6 mos. 149	1,774	...	2,220	1,835	312	308	42	440	378	62.4	834	510	429
Lahigh & Hudson River.....	June 96	292	...	293	282	38	39	2	31	194	66.3	98	45	22
Lahigh & Hudson River.....	6 mos. 96	1,657	...	1,659	1,625	212	208	14	202	177	65.8	483	199	86
Lahigh & New England.....	June 178	772	...	782	767	83	80	6	182	184	68.8	233	45	303
Lahigh & New England.....	6 mos. 178	3,878	...	3,917	3,665	451	451	38	1,121	972	70.2	685	236	1,182
Lahigh Valley.....	June 1,147	5,595	251	6,104	6,026	818	779	98	1,043	1,022	80.0	1,221	454	655
Lahigh Valley.....	6 mos. 1,147	32,324	1,536	35,635	33,400	4,517	4,254	568	5,934	26,870	81.0	6,765	2,597	3,320
Litchfield & Madison.....	June 44	309	...	312	293	13	14	1	24	25	52.8	156	64	46
Litchfield & Madison.....	6 mos. 44	1,934	...	1,961	1,707	66	77	4	146	156	49.2	327	997	312
Long Island.....	June 351	1,197	4,084	5,455	5,299	735	687	102	990	964	81.0	1,009	341	417
Long Island.....	6 mos. 351	7,058	23,559	31,627	29,721	4,703	3,983	691	6,438	26,342	89.6	3,285	2,043	245

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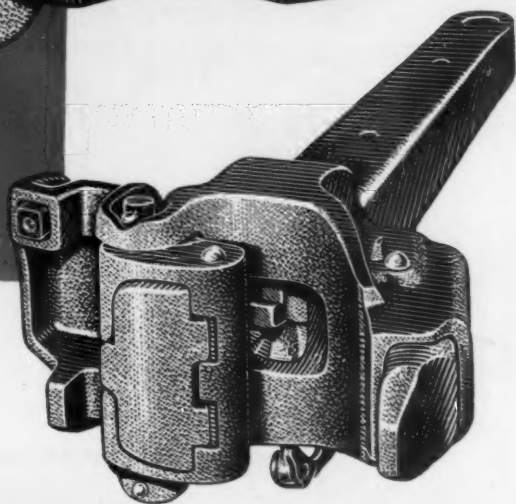
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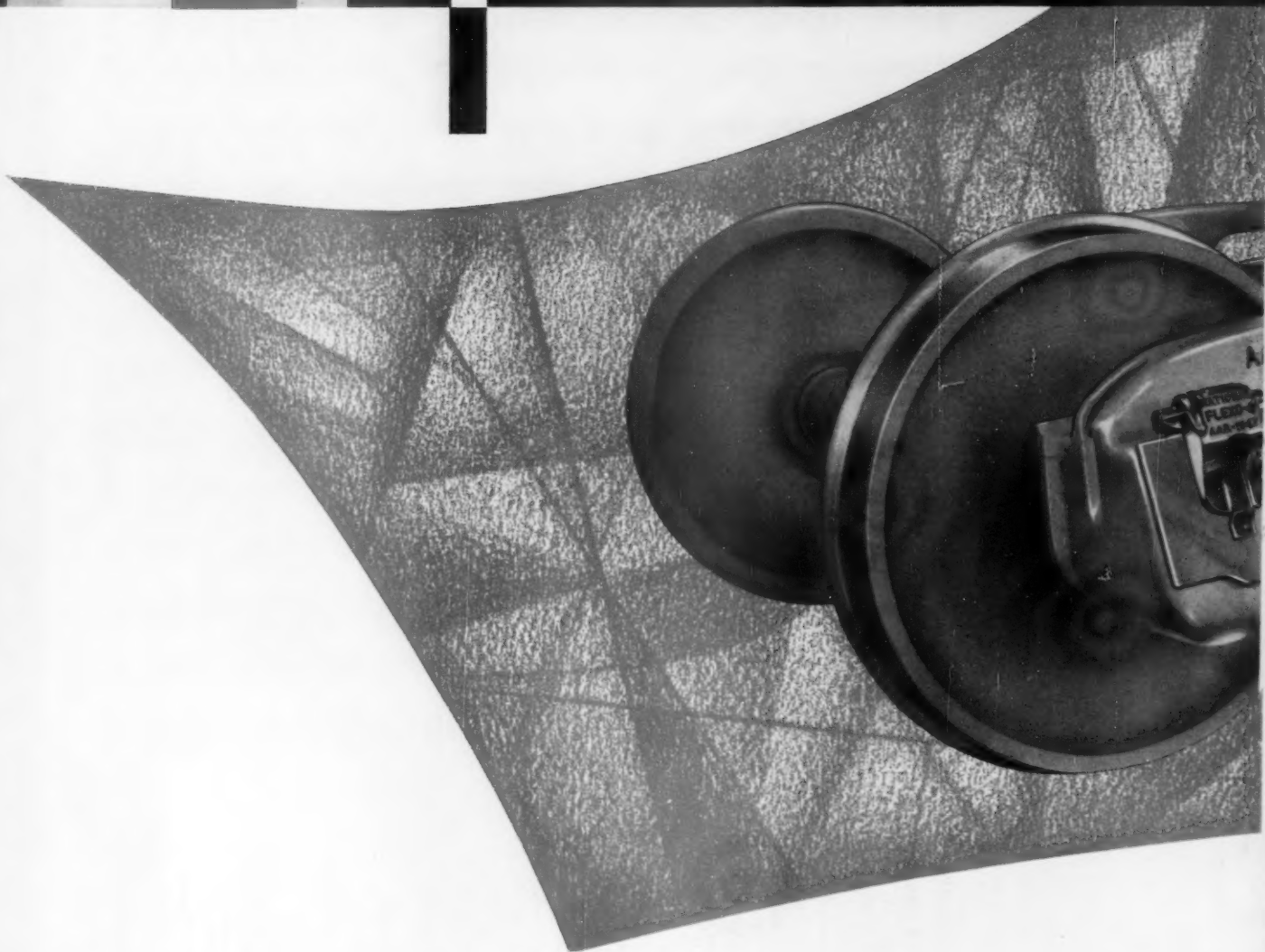
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THE FIRST MONTHS OF CALENDAR YEAR 1956

Name of Road	Average mileage operated during period	Operating Revenues		Total		Retire- ments		Traffic		Trans- portation		Total		Operating ratio		Net from railway operation		Net railway tax income		
		1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	
Alabama & Arkansas	June	746	2,093	49	2,249	290	248	27	312	251	98	76	684	1,412	1,274	641	54.6	807	429	406
Albany & Western	June	746	12,880	387	13,000	13,221	1,414	1,334	133	1,781	1,512	562	488	4,008	8,101	12,915	79.5	3,561	2,228	2,751
Albany & Western	June	746	15,446	884	17,000	14,601	1,434	1,334	133	1,781	1,512	562	488	4,008	8,101	12,915	79.5	3,561	2,228	2,751
Albany & Western	June	746	15,446	884	17,000	14,601	1,434	1,334	133	1,781	1,512	562	488	4,008	8,101	12,915	79.5	3,561	2,228	2,751
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Albany & Western	June	746	15,446	884	17,000	14,601	1,434													

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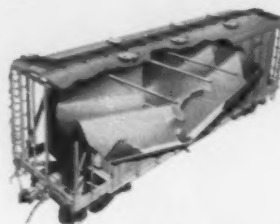
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The 29-year-old Long Island locomotive wrecking crane shown above has just been completely modernized in our shops. Conversion from steam to Diesel has added years of service, increased efficiency and reduced operating costs on this 150 ton Brownhoist.

Conversion included plenty of power in a GM Diesel with Twin Disc torque converter. Clutches are air-operated by a Westinghouse compressor. The new "Look" benefits the operator, for he now has a complete view of his work from the cab which has been relocated in a right front position. All controls have been

placed in the same arrangement with which he is familiar.

This is one of some 50 cranes modernized by L. B. Smith personnel. With a major portion of our large plant facilities devoted to the repair of cranes, shovels and heavy equipment, we make every possible effort to keep the quality of our work equal to the reputation we have earned over the years.

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with all new, 60 hp
ADAMS "220"



Here is a low-priced grader with big capacity for fast maintenance along your right-of-way and in your yards. Weighing 14,865 pounds, powered by a 60 hp diesel engine, the new Adams "220" handles many jobs formerly done by larger machines... saves money on cutting, sloping, grading, spreading, and clean-up. Adams "220" outworks, out-maneuvers any grader in its size and price class.

Works like a big machine

Like the larger Adams machines, the "220" has 4 working speeds under 6.5 mph, and 4 optional "creeper" speeds for full use of engine power in slow, rugged, or precise work. Travels job-to-job up to 18.3 mph.

Blade controls are straight-line-thrust hydraulic. Moldboard swings from ditch-cut to 90° high bank cut on either side of grader, in less than a minute, without operator leaving cab. 10-ft. slide-shift moldboard has 6 pitch positions, and reaches 54½" outside wheels. Leaning front wheels, hydraulically operated, offset side thrust, make short turns possible. Wide tread (76" front, 77" rear) gives stability, safety, and easy handling on slopes.



Grading road-bed before ballast is spread and new track laid, "220" works in four speeds, from 1.8 to 6.4 mph, for the best combination of power and speed.

Built like a big machine

"220's" big 10:00 x 24 tires on all six wheels give firm footing and minimum rolling resistance. Sturdy 4-wheel tandem-drive utilizes full engine power, provides push-power and traction for doing many of the heavier jobs. Rugged diesel engine is cranked electrically, starts quickly in all seasons. Optional cab has 6'4" inside height, floor to ceiling, without use of "foot wells".

Sturdy one-piece, rectangular-welded-section frame, and strong Y-shape drawbar, withstand punishing shocks and stresses. Arched frame provides 17" blade clearance to clear shoulders when climbing out of ditch.

Anti-friction steering, and smooth, fast-acting hydraulic brakes give operator confidence to work or travel at highest practical speed.

Scarifier, power-shift moldboard, 12' blades, cab are optional.

See Adams in action

We will be glad to prove to you that "220" as well as larger Adams graders work heavier cuts, faster, and at lower cost than other graders of similar size and power. Why not call or write and ask for a competitive demonstration?

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Model 440... 104 hp... 21,500 lbs.
Model 550... 120 hp... 23,500 lbs.
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Adams—Trademark AG-44-RR-z



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Railroad Sales Division
Peoria, Illinois

A Subsidiary of Westinghouse Air Brake Company



(Continued from page 35)

Spokane, Portland & Seattle. Mr. Shoemaker's successor is **W. R. Bjorklund**, district engineer, St. Paul, who in turn is replaced by **P. R. Gibson**, principal assistant engineer. **R. W. Humphreys**, office engineer, succeeds Mr. Gibson, and in turn is succeeded by **R. E. Nichols**, assistant district engineer. **C. V. Schutt**, division engineer, replaces Mr. Nichols, and **G. J. Pechmann**, instrumentman, succeeds Mr. Schutt.

R. F. Blakeslee, division storekeeper Yellowstone Division, Glendive, Mont., appointed district storekeeper, South Tacoma, Wash., succeeding **Thomas McArthur**, retired. Mr. Blakeslee's successor is **W. E. Smith**, assistant district storekeeper, Brainerd, Minn.

Frank J. Berry, vice-president, traffic at St. Paul, retired August 31. Mr. Berry's retirement was erroneously reported under the Nickel Plate in Railway Age, Aug. 27, p. 34.

PENNSYLVANIA.—**Irving W. MacMullin**, district passenger manager, New York, retired August 31.

SEABOARD.—**R. L. Lynn**, master mechanic, Savannah, Ga., named assistant chief mechanical officer, Norfolk, Va.; **L. B. Alexander** appointed



R. L. Lynn



John H. Hester

master mechanic, Carolina and Alabama divisions, at Savannah, and H.

R. Boyette named diesel supervisor (system) at Savannah.

John H. Hester, assistant superintendent, Virginia division, Raleigh, N.C., appointed superintendent of that division, succeeding Charles I. Morton, named special representative, operations department, Norfolk. Ray Carrigan, trainmaster at Raleigh, succeeds Mr. Hester as assistant superintendent.

R. N. Hoskins, industrial forester, appointed general forestry agent, Norfolk. W. D. Neisler, storekeeper, Jacksonville, appointed stores inspector there.

Wayne W. Wolford, assistant freight traffic manager, promoted to freight traffic manager to succeed W. A. Marshall, who will retain his title as freight traffic manager but who



Wayne W. Wolford

has been assigned special duties. H. P. Toxey, assistant general freight agent, succeeds Mr. Wolford. Headquarters for these assignments will be Norfolk.

E. K. Kraemer, commercial agent, St. Louis, appointed general agent, Chattanooga, Tenn., succeeding D. W. Anderson, retired.

H. W. Ewell appointed assistant general freight agent.

W. M. Harrison, Jr., assistant shop superintendent, Portsmouth (Va.) car shops, appointed mechanical engineer, Norfolk, succeeding the late E. L. Cook.

OBITUARY

E. L. Cook, mechanical engineer of the Seaboard at Norfolk, died August 8. Mr. Cook would have been 65 years old August 24.

Clyde F. Farmer, 67, vice-president—traffic of the Lackawanna at New York, died at his home in Summit, N. J., after a brief illness.

Vernon A. Hewitt, 60, retired secretary-treasurer of the Monon, died August 26.

Earl B. Sloan, 71, former vice-president of the Southern Pacific died August 20.



Sure-footed Tournatractor safely crosses trestles and high bridges. Ability to drive along the track is an important advantage . . . sometimes is the only way to reach a job.

Runs to scattered jobs over tracks, pavement, cross-country

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Once on a job, Tournatractor gets right to work. When dozing, it delivers 2½ yds. every few seconds. It also pulls equipment speedily, uproots trees, brush, cuts slopes, etc. Because of its greater speeds, it will outwork the biggest crawler-tractor on almost every assignment. It has 4-wheel drive, instant gear change with constant-mesh transmission, torque converter, powerful 4-wheel disc-type air brakes, and fast fingertip electric control. It's easy to operate, handy to maneuver, safe and dependable, needs little maintenance. It gets work done fast without delays to rail traffic. And it goes from job to job in a hurry!

For fast, economical right-of-way maintenance on your railroad, check further the rubber-tired advantages of Tournatractor. It's a dependable job-proved product of the earthmoving subsidiary of Westinghouse Air Brake Company.

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